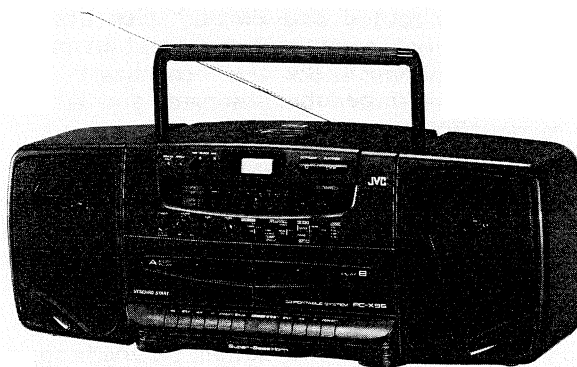


JVC

SERVICE MANUAL

CD PORTABLE SYSTEM

PC-X95_{B/E/G/EN/GI}



COMPACT
disc
DIGITAL AUDIO

Area Suffix

B U.K.
E Continental Europe
G Germany
EN Northern Europe
GI Italy

Contents

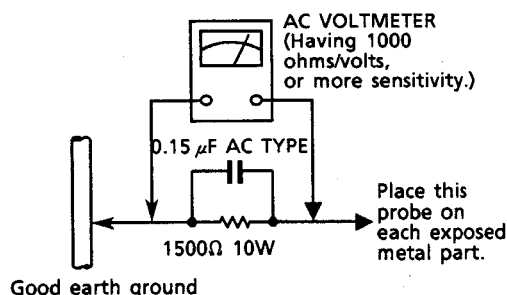
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Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (Δ) on the Parts List in the Service Manual. The use of a substitute replacement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage current check (Electrical shock hazard testing)
After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, control shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
Do not use a line isolation transformer during this check.

- Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).

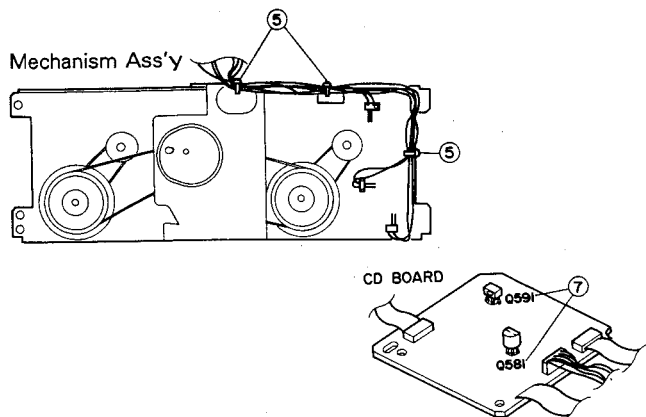
- Alternate check method
Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500 Ω 10 W resistor paralleled by a 0.15 μ F AC-type capacitor between an exposed metal part and a known good earth ground. Measure the AC voltage across the resistor with the AC voltmeter. Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and measure the AC voltage across the resistor. Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

■ Important Management Points Regarding Safety (Items Demanding Special Safety Precautions)



- ① The power transformer must be checked by the following markings as well as managed in the fastening torque of the screws. Also confirm parts number according to the parts list.
C : VTP57P2-12C (Marking)

- ② Power cord: Make sure of the following markings and inspect exterior scratch and damage. (Accessories Parts)

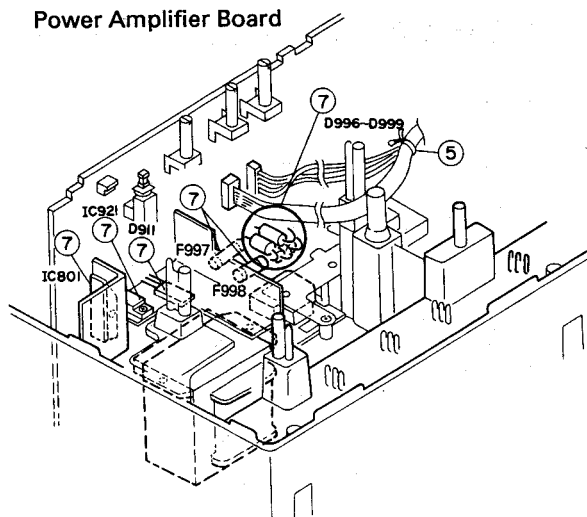
	Power cord	Attachment plug	Connect plug
B	BS6500	—	KS-15F
E/G/GI/EN	<VDE>	KP419C	KS-15 or KS-15F

- ③ Confirm the AC socket marking:

B/E : HSC/466

- ⑤ Wires and so forth must be securely clamped or fixed as illustrated on the left (at two points) to keep them from power active parts, mobile parts, heating units and sharp-edged parts.

Power Amplifier Board




- ⑦ Since the following parts are heat generating ones, they must not contact with electrolytic capacitors, wires, etc.

- Parts in box are out of JVC control.

heat sink, D591, Q581, D996, D997, D998, D999, IC801, IC921, Q911, Q921

Note: IC801 (TA8207K) must be checked if its primary side is protected by the primary barrier protector.

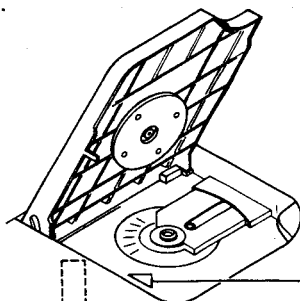
Fuse

Confirm  mark on F998 and F999 and they are tightly retained by fuse holders.

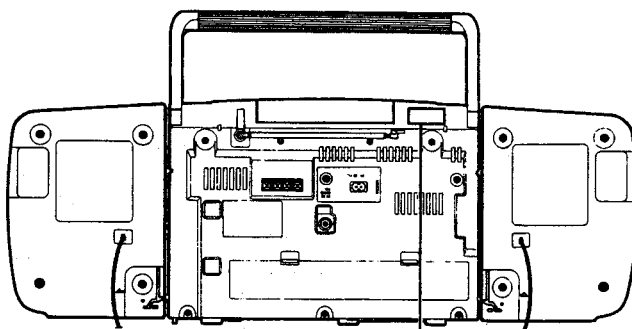
B/E	F998	T3, 15A
E	F997	T3, 15A

IMPORTANT FOR LASER PRODUCTS (For U.S.A. only)

1. CLASS 1 LASER PRODUCT
2. DANGER: Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. CAUTION: Do not open the rear cover. There are no user serviceable parts inside the unit; leave all servicing to qualified service personnel.
4. CAUTION: The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the disc holder is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.
5. CAUTION: Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

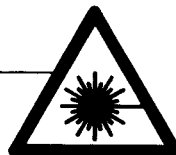


IDENTIFICATION LABEL AND CERTIFICATION LABEL



**CLASS 1
LASER PRODUCT**

Obs:
Apparaten innehåller laser
Komponent av höger laserklass
än klass 1.



VAROITUS! Laite sisältää laserdiodin,
joka lähettää näkymättömiä silmille
vaarallista lasersäteilyä.

ADVARSEL: Der vil udstråles
usynlig laserbestråling når
apparatet åbnes og dets
sikkerhedsanordninger fejler.
UNDG AT BLIVE UDSÆT
FOR LASERBESTRÅLING.

DANGER-Invisibl laser
radiation when open and
interlock is defeated.
AVOID DIRECT EX-
POSURE TO BEAM

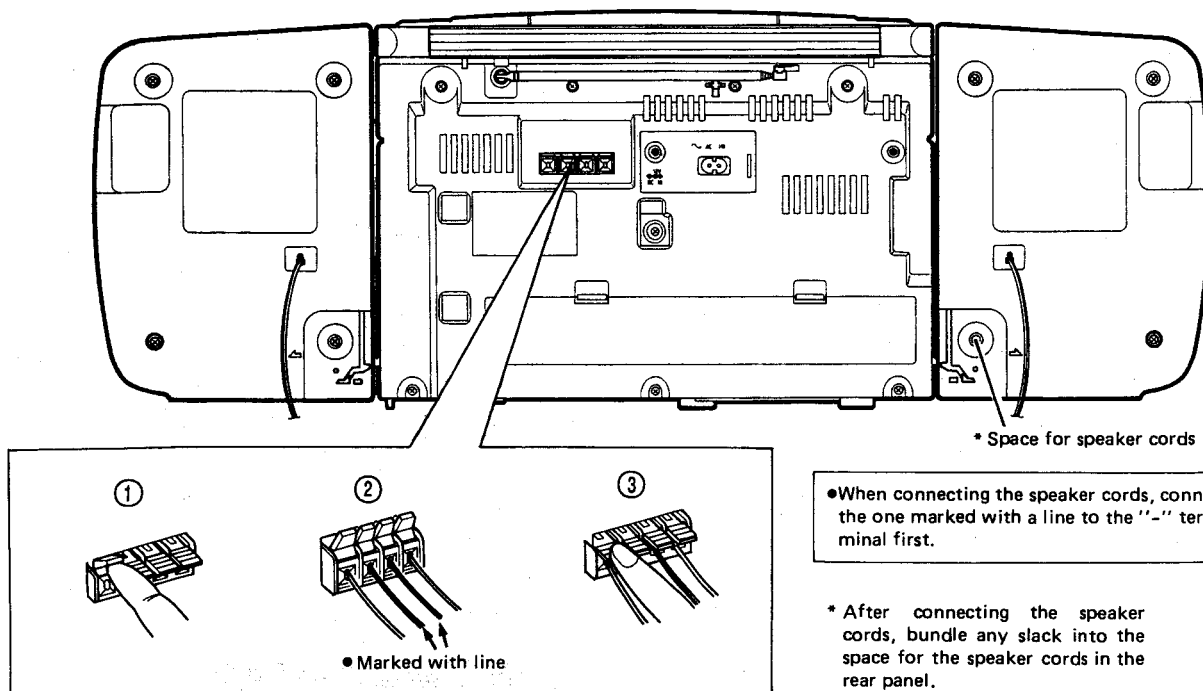
■ Instructions (Extract)

FEATURES

1. **Portable system incorporating multi-function CD player.**
 - CD player with program play of up to 20 tunes/repeat play function.
 - Digital LCD (Liquid Crystal Display) indicates the playback time of each tune and the number and total playback time of programmed tunes.
 - 8-cm (3-3/16") "CD singles" capability.
2. **Synchro-record start for CD recording convenience.**
3. **Double-cassette mechanism (Deck A for recording and playback, Deck B for playback).**
 - Metal and CrO₂ tape can be played back, for superior tone quality.
 - Synchro start dubbing function (normal/high-speed dubbing).
 - Relay playback (from Deck B to Deck A).
 - Full auto-stop mechanism.
4. **SUPER BASS HORN system**

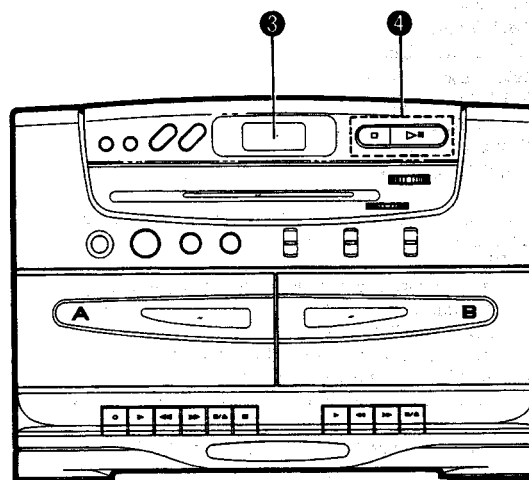
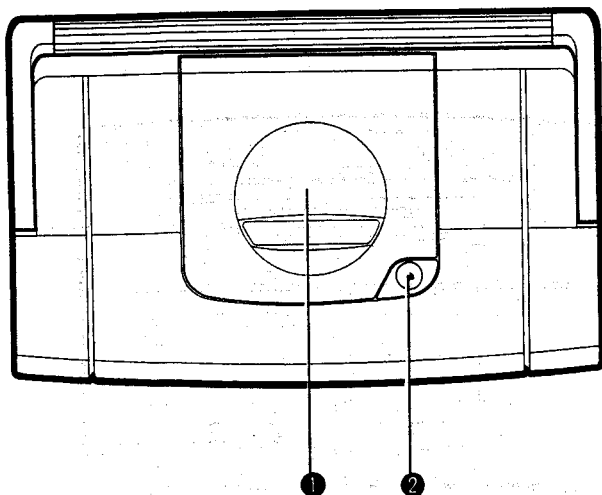
CONNECTIONS





- Do not switch the power on until all the connections are completed.

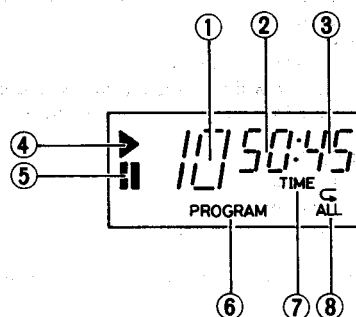


NAMES OF PARTS AND THEIR FUNCTIONS

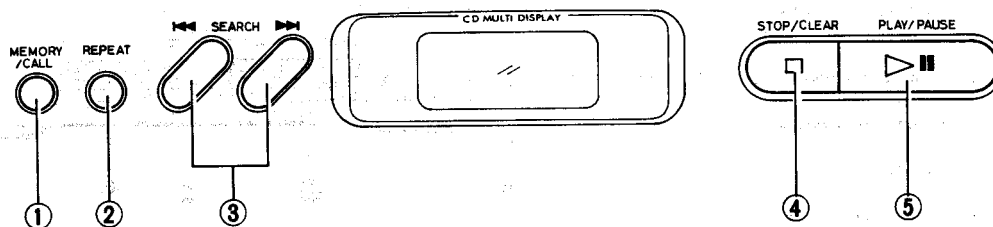
• Top panel








- ① Disc holder
- ② Disk holder open button (PUSH OPEN) ()
- ③ Display window (CD player section)
 - ① Track (tune) number display
 - ② Program order number/Time (minute) display
 - ③ Time (second) display
 - ④ Playback indicator ()
 - ⑤ Pause indicator ()
 - ⑥ Program mode indicator (PROGRAM)
 - ⑦ TIME mode indicator
 - ⑧ Repeat playback indicator ( ALL)



④



- ④ CD operation buttons
 - ① MEMORY/CALL button
 - ② REPEAT button
 - ③ SEARCH ( / ) button
 - ④ STOP/CLEAR () button
 - ⑤ PLAY/PAUSE ( ) button

- 5 Dial scale
- 6 TUNING knob
- 7 FINE TUNING knob
- 8 POWER switch
- 9 VOLUME control
- 10 BASS control
- 11 TREBLE control
- 12 FUNCTION switch

CD

Set to this position when listening to or recording from a CD.

TUNER

Set to this position when listening to or recording from the radio.

TAPE-HIGH SPEED DUBBING

Set to this position to dub at high speed.

TAPE-NORMAL SPEED DUBBING

Set to this position to listen to a cassette or dub at normal speed.

- 13 TAPE (FOR PLAYBACK)/FM MODE/BEAT CUT switch
- 14 TAPE (FOR PLAYBACK) switch

Set this switch according to the type of tape to be used.

NORMAL:

Set to this position to listen to a normal (type I) tape.

METAL-CrO₂: (playback only)

Set to this position to listen to a metal (type IV) or chrome (type II) tape.

FM MODE switch

STEREO: Set to this position to listen to or record an FM stereo broadcast.

MONO: Set to this position when FM stereo reception is obscured by noise.

BEAT CUT switch

Usually set to "1 NORM" position.

Beats which may occur while recording an AM broadcast can be eliminated by changing the position of this switch.

- 15 BAND switch (FM/AM)
- 16 Cassette holder (Deck A)
- 17 Cassette holder (Deck B)
- 18 Cassette operation buttons (Deck A)

REC:

Press this button with the ► PLAY button to start recording.

► PLAY:

Press to play the tape.

◀◀ REW:

Press to rewind the tape rapidly.

▶▶ FF:

Press to wind the tape forward rapidly.

■/▲ STOP/EJECT:

Press to stop the tape. Pressing this button after the tape stops opens the cassette holder.

|| PAUSE:

Press to stop the tape temporarily. Press again to release the pause mode.

- 19 Cassette operation buttons (Deck B)

► PLAY:

Press to play the tape.

◀◀ REW:

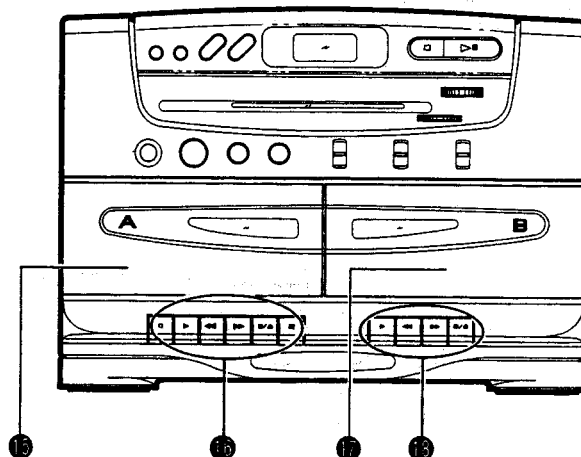
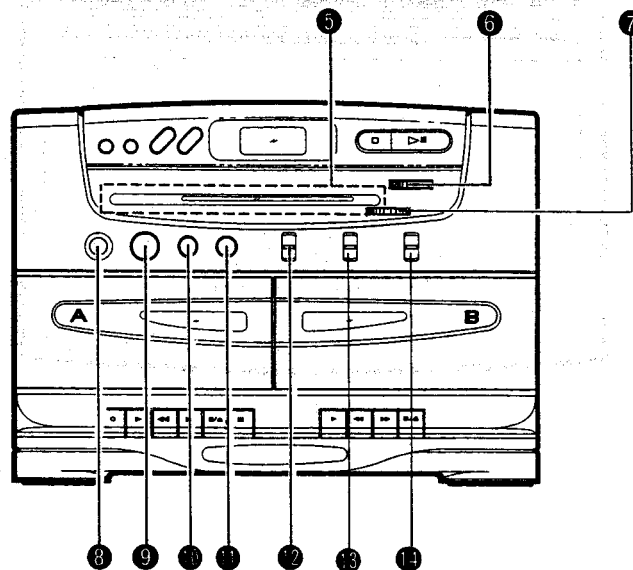
Press to rewind the tape rapidly.

▶▶ FF:

Press to wind the tape forward rapidly.

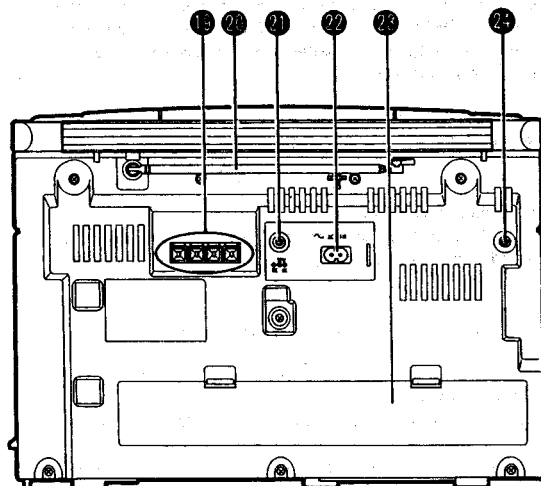
■/▲ STOP/EJECT:

Press to stop the tape. Pressing this button after the tape stops opens the cassette holder.



• Rear panel

- ① **SPEAKER terminals**
Connect the provided speakers to these terminals.
- ② **Telescopic antenna for FM reception.**
- ③ **DC (12 V) jack**
- ④ **AC IN (AC input) jack**
- ⑤ **Battery compartment cover**
- ⑥ **PHONES jack (3.5 mm dia. stereo mini)**
Connect headphones (impedance 16 Ω – 1 k Ω) to this jack. The speakers are automatically switched off with the headphones connected.



PLAYING COMPACT DISCS

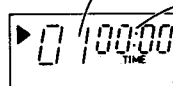
Entire tune playback . . . The following example shows using a compact disc which contains 10 tunes and a total playback time of 50 minutes, 45 seconds.

Operate in order shown.

- ④ Set to CD.
The disc starts rotating and the total number of track (tune) and total playback time are displayed.
- FUNCTION
CD •
TUNER •
TAPE |
- HIGH
• NORMAL
DUBBING
SPEED
- 10 50:45
TIME
- Total playback time.
- Total number of track (tune).

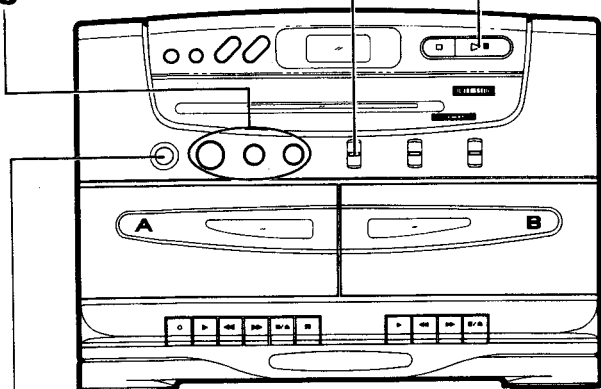
- ⑤ Press to start the playback. The track (tune) number and playback time are displayed.

Track (tune) number.

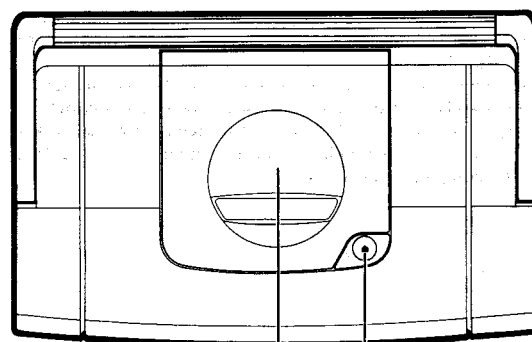


Displays elapsed playback time of each tune being played back.

- ⑥ Adjust.



- ① Set to ON. (—)



- ② Press to open the disc holder.

- ③ Load a disc with the label side facing up. Close the disc holder.

Skip playback

- During playback, when skipping to the beginning of the next tune or the tune being played back or the previous tune, the beginning of the tune is easily located and the playback starts from there.

To listen to the next tune...

Press the **▶▶** button once to skip to the beginning of the next tune.

To listen to the previous tune...

Press the **◀◀** button to skip to the beginning of the tune being played back and press again to skip to the previous tune.

Search playback (to locate the required position on the disc)

- The required position can be located using fast-forward or reverse search during playback.
- Hold down the button and the search playback starts slowly and then gradually increases speed.
- Since a small sound (about one quarter of playback level) can be audible in both modes, release the button when the required position is located while monitoring the sound.

To stop playback

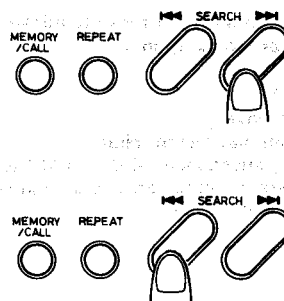
- **To stop in the middle of a disc**
During programmed playback, press the **□** STOP/CLEAR button once to stop playback; press again to cancel the program.
- **To stop a disc temporarily**
Press the **▶||** PLAY/PAUSE button to stop a disc temporarily. When pressed again, playback resumes from the point where pause was engaged.

Caution:

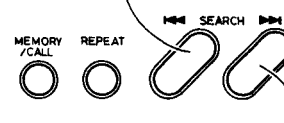
When changing discs, press the **□** STOP/CLEAR button; check that the disc has stopped rotating completely before unloading it.

Notes:

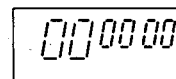
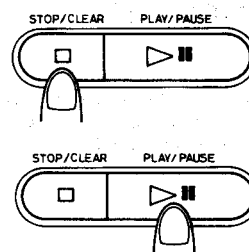
- The following indication may be shown when a disc is dirty or scratched, or when the disc is loaded upside down.
In such a case, check the disc and insert again and clean or change the disc.
- Do not use the unit at excessive high or cold temperatures. The recommended temperature range is 5°C (41°F) to 35°C (95°F).
- After playback, unload the disc and close the disc holder.
- If mistracking occurs during playback, lower the volume.
- Mistracking may occur if the unit is given a strong impact or is used in a place which is subject to vibrations (i.e. in a car travelling on a rough road).



Keep pressing for the fast-reverse search



Keep pressing for the fast-forward search



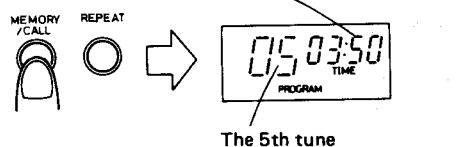
Programmed playback

• Up to 20 tunes can be programmed.

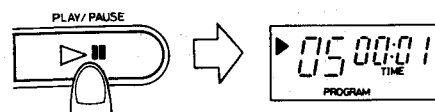
When there are less than 20 tunes on a disc, the total playback time of programmed tunes is displayed (up to 99 minutes, 59 seconds).

- ① Press the MEMORY/CALL button to set to the programming mode.
- ② Press to designate the required track number.
 - To count down the track number, press the ◀ button.
- ③ Press the MEMORY/CALL button to program the track (tune) number.
 - Repeat steps ② and ③ to program other tunes.
- ④ Press the ▶|| PLAY/PAUSE button when programming is completed. Programmed playback starts.

③



④



To clear programmed tunes

Press the □ STOP/CLEAR button before playback. During programmed playback, press this button twice. When the disc holder is opened, the programmed tunes are automatically cleared.

To confirm the details of programmed tunes

When the MEMORY/CALL button is pressed, the details of programmed tunes are displayed in the programmed order.

Repeat playback

Press the REPEAT button before or during playback. A single tune or all the tunes can be repeated.

A single tune and all the tunes can be specified separately. Each time the REPEAT button is pressed, the mode will be changed from a single tune (↺) to all the tunes (↺ ALL) to the clear mode, in this order.

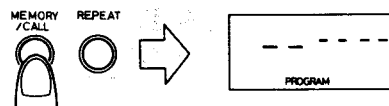
• Repeat playback of a single tune (↺)

The tune being played back can be heard repeatedly.

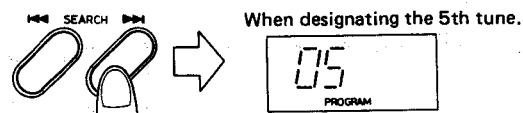
• Repeat playback of all the tunes (↺ ALL)

When playing back the entire disc or programmed tunes, all the tunes or the programmed tunes can be heard repeatedly.

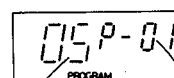
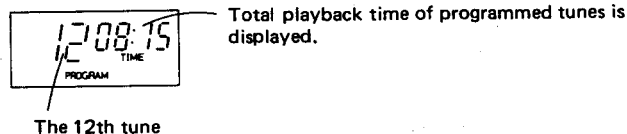
①



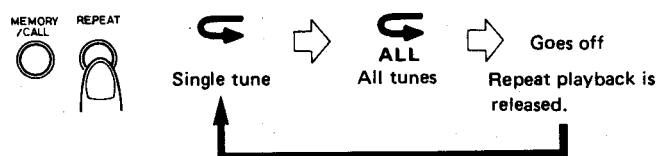
②



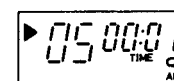
When programming the 12th tune.



Tune number Program order number



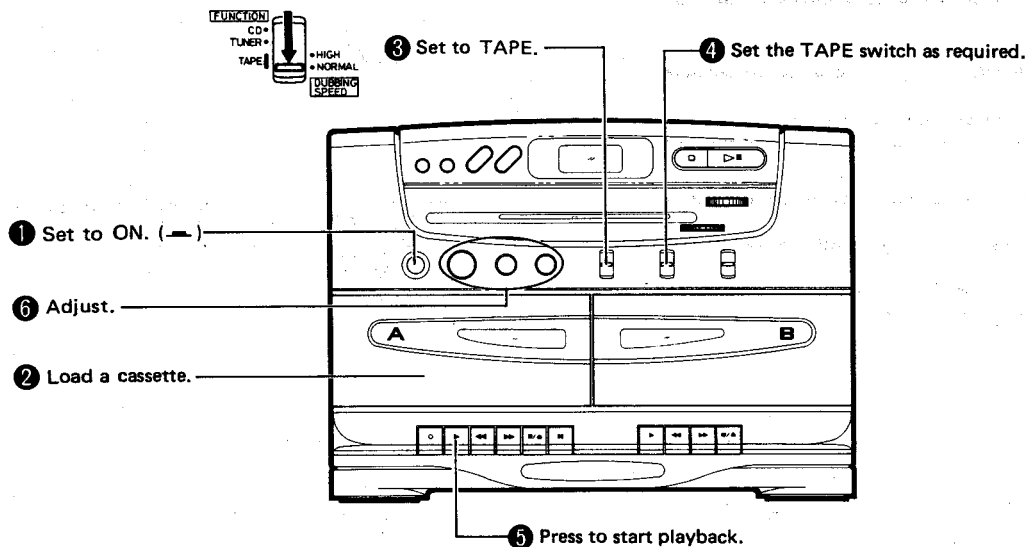
The 5th tune



CASSETTE PLAYBACK

(The example shows deck A)

Operate in order shown.



• Playback in deck B

The previous procedures 4 and 5 also apply to deck B when a cassette is loaded in deck B. When decks A and B are simultaneously set to the play mode, only the playback sound of deck B is heard.

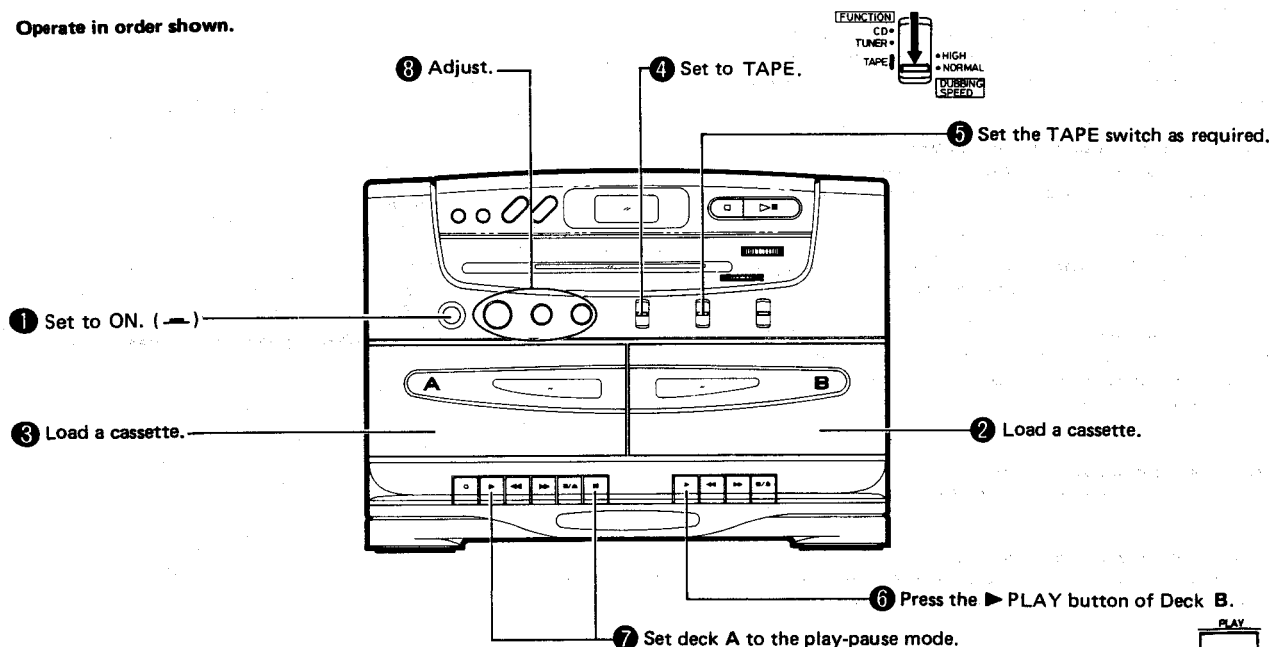
Notes:

1. When the power is turned off while the tape is running, cassette operation buttons which are depressed do not return to the original positions. Press the ■/▲ STOP/EJECT button to stop the tape running before turning off the power.
2. Avoid operating the FF or REW button on the deck during playback of the other deck.

RELAY PLAYBACK

(From deck B to deck A)

Operate in order shown.



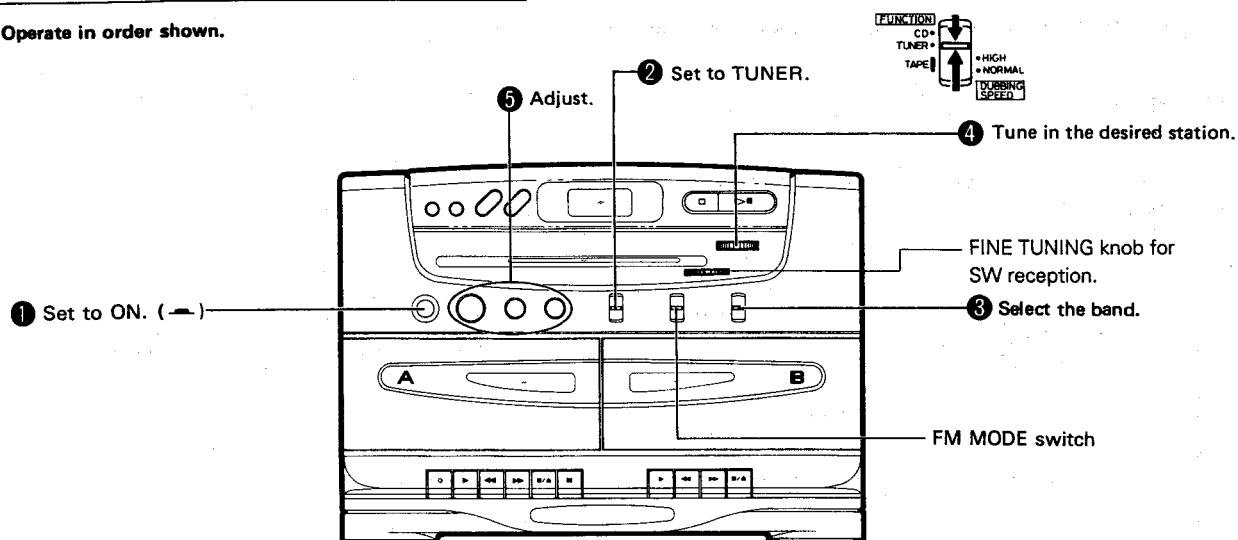
Notes:

1. Use the same type of tape in decks A and B.
2. When deck B stops, deck A's pause mode will be released and it will start playback. When deck A stops automatically, relay playback will be released.



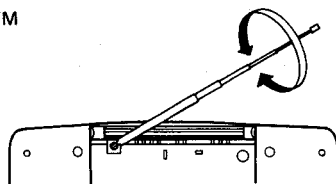
RADIO RECEPTION

Operate in order shown.

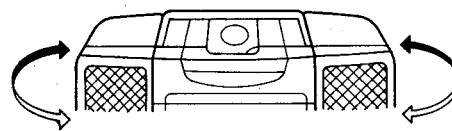


Using the antennas

FM



AM

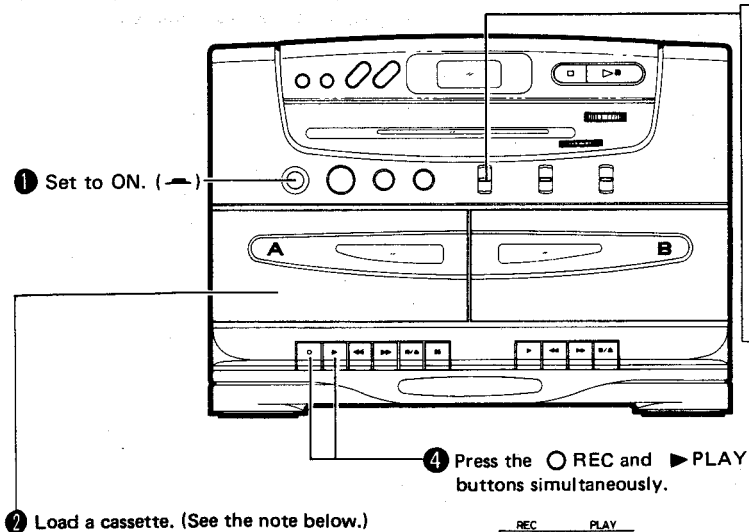


Note:

The built-in ferrite core antenna can pick up interference tones from television receivers in the neighborhood and thereby disturb MW reception.

RECORDING (Deck A)

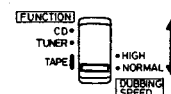
Operate in order shown.



• In recording, the ALC circuit automatically optimizes the recording level and adjustment of the recording level is unnecessary.

3 Select the recording source

- When recording from the CD player CD
- When recording from the radio TUNER
- When dubbing the tape at high-speed TAPE-HIGH SPEED DUBBING
- When dubbing the tape normal-speed TAPE-NORMAL SPEED DUBBING



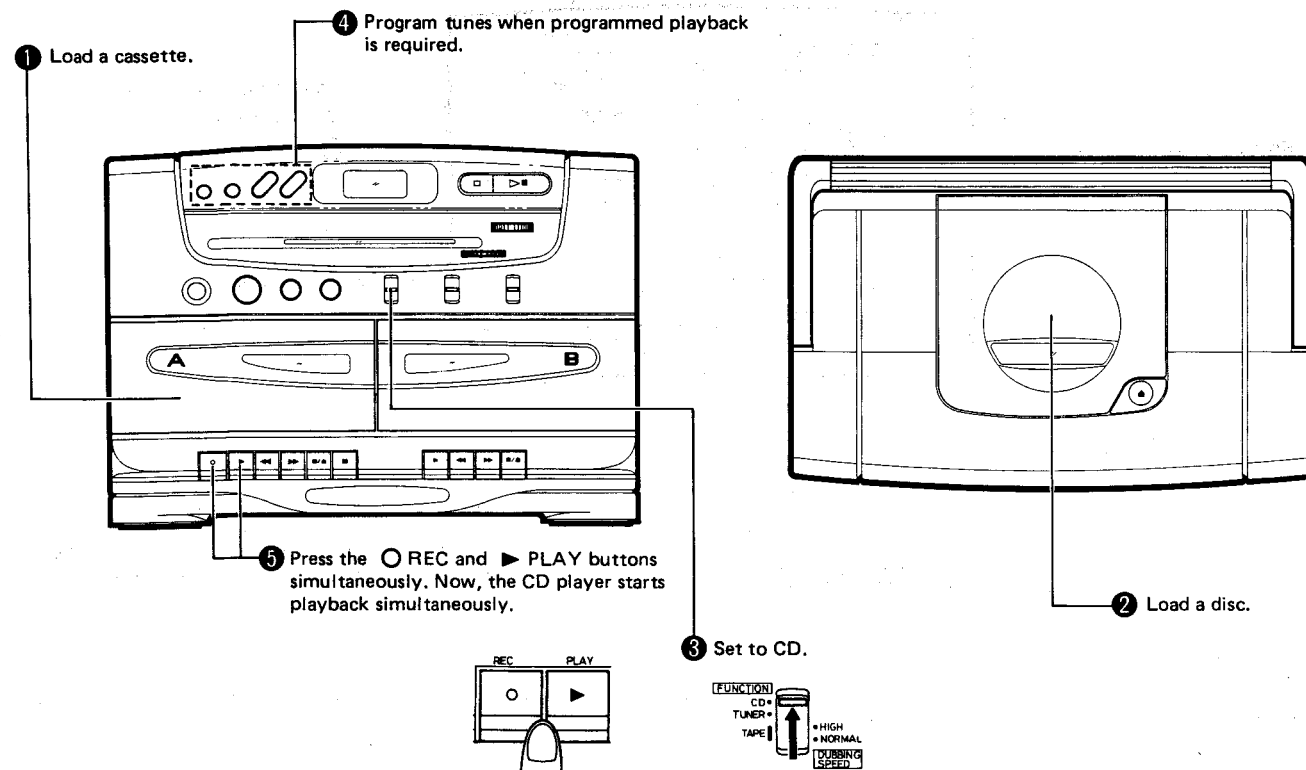
Notes:

1. The recording characteristics of this unit are those of normal tape. Normal tape has different characteristics from CrO₂ and metal tapes.
2. Avoid operating the FF or REW button on deck B during recording.

Synchronized recording with the CD Player

- In this system, the CD player starts playback when deck A enters the recording mode.

Operate in order shown.



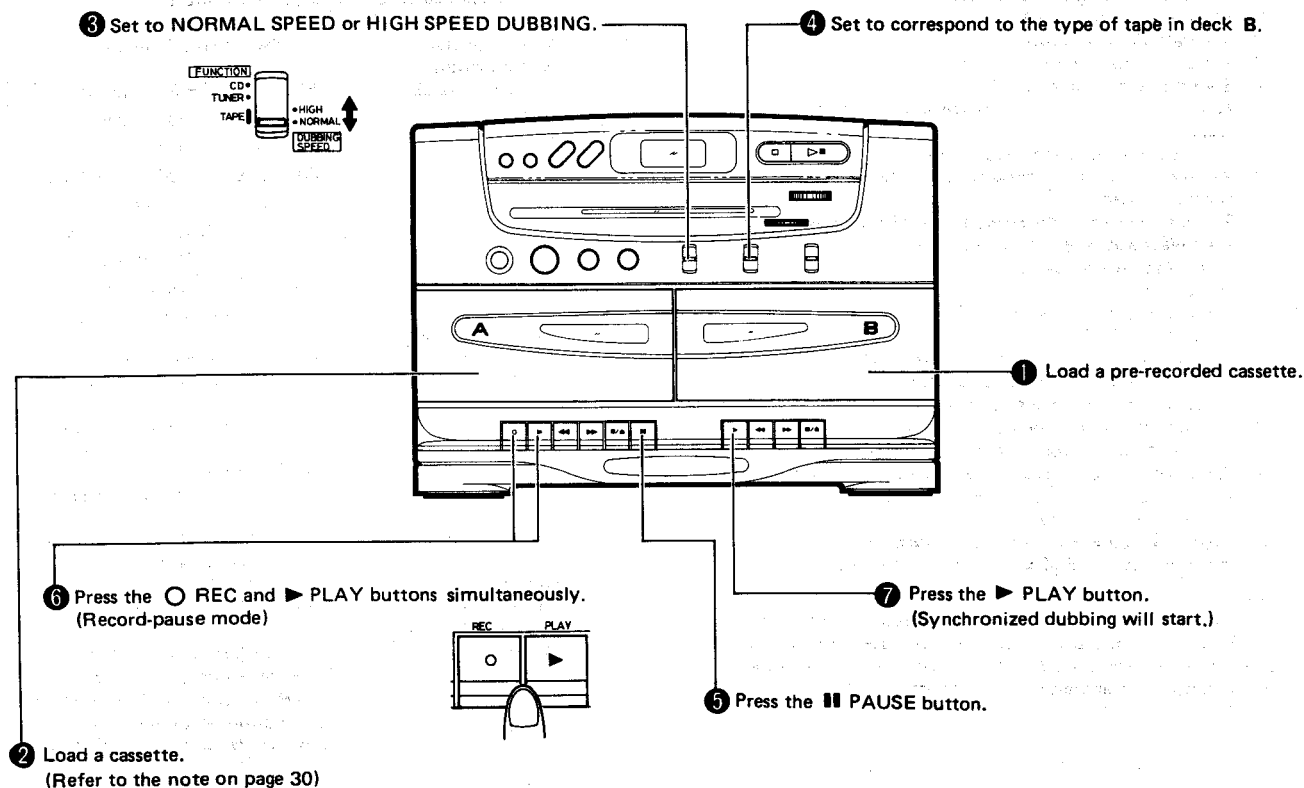
- Non-recorded sections of approx. 4 seconds are left automatically between tunes.
- When the tape reaches the end first, the CD player stops automatically; when the CD player stops first, the tape continues running. In this case, press the ■ / ▲ STOP/EJECT button to stop the tape.

- When automatic spacing between tunes is not required . . . Perform the following after finishing the previous operation (1 - 4).
- 1 Press the ► ■ PLAY/PAUSE button of the CD player twice. The CD player enters the pause mode.
 - 2 Press the ○ REC and ► PLAY buttons simultaneously. Now, the CD player starts playback simultaneously.

DUBBING (SYNCHRO START DUBBING)

Normal and high-speed dubbing can be done from deck B to deck A.

Operate in order shown.



Notes:

1. Television receivers placed close to this unit may cause interference on the recorded signal when this unit is used in the high-speed dubbing mode. If this happens, either turn off the television receiver or use the normal-speed dubbing mode.
2. With deck A in the record-pause mode, the ■ PAUSE button is released when deck B enters the stop mode.
3. Avoid switching the FUNCTION switch during dubbing.

■ PAUSE button

First of all, press the ■ PAUSE button. Then, press the ○ REC and ► PLAY buttons, thus entering the record-pause (standby) mode. After that re-press the ■ PAUSE button at the exact moment you want to start recording. This releases the tape to begin recording at a precise moment.

● Do not leave the unit in pause mode for more than a few minutes. Instead, push the ■ / ▲ STOP/EJECT button and turn the power off.

Full auto-stop mechanism (both decks A and B)

When the tape reaches either end during the recording/playback and fast forward or rewinding mode, the tape stops automatically.

Erasing

When recording on a prerecorded tape, the previous recording is automatically erased and only the new program is recorded on the tape.

To erase a tape without making a new recording . . .

Follow the section "RECORDING" but in step ④, set the FUNCTION switch to TAPE then perform recording to erase a tape.

TROUBLESHOOTING

What appears to be trouble is not always real trouble. Make sure first . . .

1. **Power cannot be turned on.**
 - * Is the power cord unplugged?
2. **When the ► PLAY button is pressed, tape does not move.**
 - * Is the ■ PAUSE button pressed?
3. **Playback sound is small.**
 - * Are batteries run down?
 - * Is head section dirty?
4. **Sound quality is poor.**
 - * Is the position of TAPE switch correct? (during play-pack)
5. **REC button cannot be pressed.**
 - * Are the safety tabs of cassette tape removed?
 - * Is cassette loaded?
6. **The disc is loaded, however, the total tune number and total playback time are not displayed.**
 - * Is the disc upside down?
 - * Is the disc dirty?
 - * Is the disc damaged or warped?
 - * Is the lens dirty?
 - * Is there lens condensation? If so, set the POWER switch to ON and wait 1 or 2 hours before use.
7. **No sound can be heard from the speakers.**
 - * Are headphones connected to the unit?
 - * Are the speaker cords connected securely?
8. **Since tape speed is irregular, wow and flutter occur.**
 - * Is the pinch roller or capstan dirty?
 - * Are batteries run down?
9. **High-speed dubbing cannot be performed.**
 - * Is the position of FUNCTION switch correct?

Note:

When the deck is moved from a cold place of around 0°C (32°F) to a warm place, it may not operate normally, because moisture has formed inside the deck. Normal operation will be restored after waiting 1 or 2 hours.

SPECIFICATIONS

Compact disc player section

Type	: Compact disc player
Signal detection system	: Non-contact optical pickup (semiconductor laser)
Number of channels	: 2 channels (stereo)
Frequency response	: 20 Hz — 20,000 Hz
Signal-to-noise ratio	: 76 dB
Wow & flutter	: Less than measurable limit
Radio section	
Frequency ranges	: FM 88 — 108 MHz (B/E/G/EN) 87.5 — 108 MHz (GI)
Antennas	: SW 6 — 18 MHz
	: AM 540 — 1,600 kHz (B/E/G/EN) 526 — 1,607 kHz (GI)
	: LW 150 — 280 kHz (B/E/G/EN) 148 — 284 kHz (GI)
	: Telescopic antenna for FM & SW Ferrite core antenna for MW & LW

Tape deck section

Track system	: 4-track 2-channel stereo
Motor	: Electronic governor DC motor for capstan
Heads	: Deck A: Hard permalloy head (for recording/playback), Permalloy head for erasure Deck B: Hard permalloy head for playback
Frequency response	: 63 — 12,500 Hz (with normal tape/normal speed)
Wow & flutter	: 0.15 % (WRMS)
Fast wind time	: Approx. 120 sec. (C-60 cassette)
General	
Power output	: 4.5 watts per channel, min. RMS, at 3 ohms from 150 Hz to 15 kHz with no more than 10 % total harmonic distortion Max. 16 W (8 W + 8 W) at 3 Ω (MAX OUT)
Output terminals	: Speaker x 2 (matching impedance 3 — 8 Ω) PHONES x 1 (Output level: 0 — 12 mW/32 Ω, Matching impedance: 16 Ω — 1 kΩ)
Power supply	: AC 240 V, 50/60 Hz (PC-X95B) AC 230 V, 60 Hz (PC-X95GI/E/G/EN) DC 12 V (8 "D" batteries)
Power consumption	: 28 W (with POWER SW ON) 2.6 W (with POWER SW STANDBY)
Dimensions	: 682 (W) x 249 (H) x 227 (D) mm (26-7/8" x 9-13/16" x 8-15/16") including knobs
Weight	: Approx. 7.5 kg (16.6 lbs) (without batteries) Approx. 8.3 kg (18.4 lbs) (with batteries)
Speaker Section (each unit)	
Speakers	: 10 cm (3-15/16") x 1
Impedance	: 3 Ω
Dimensions	: 170 (W) x 234 (H) x 195 (D) mm (6-3/4" x 9-1/4" x 7-11/16")
Weight	: Approx. 1.3 kg (2.9 lbs)

Design and specifications are subject to change without notice.

1 Location of Main Parts

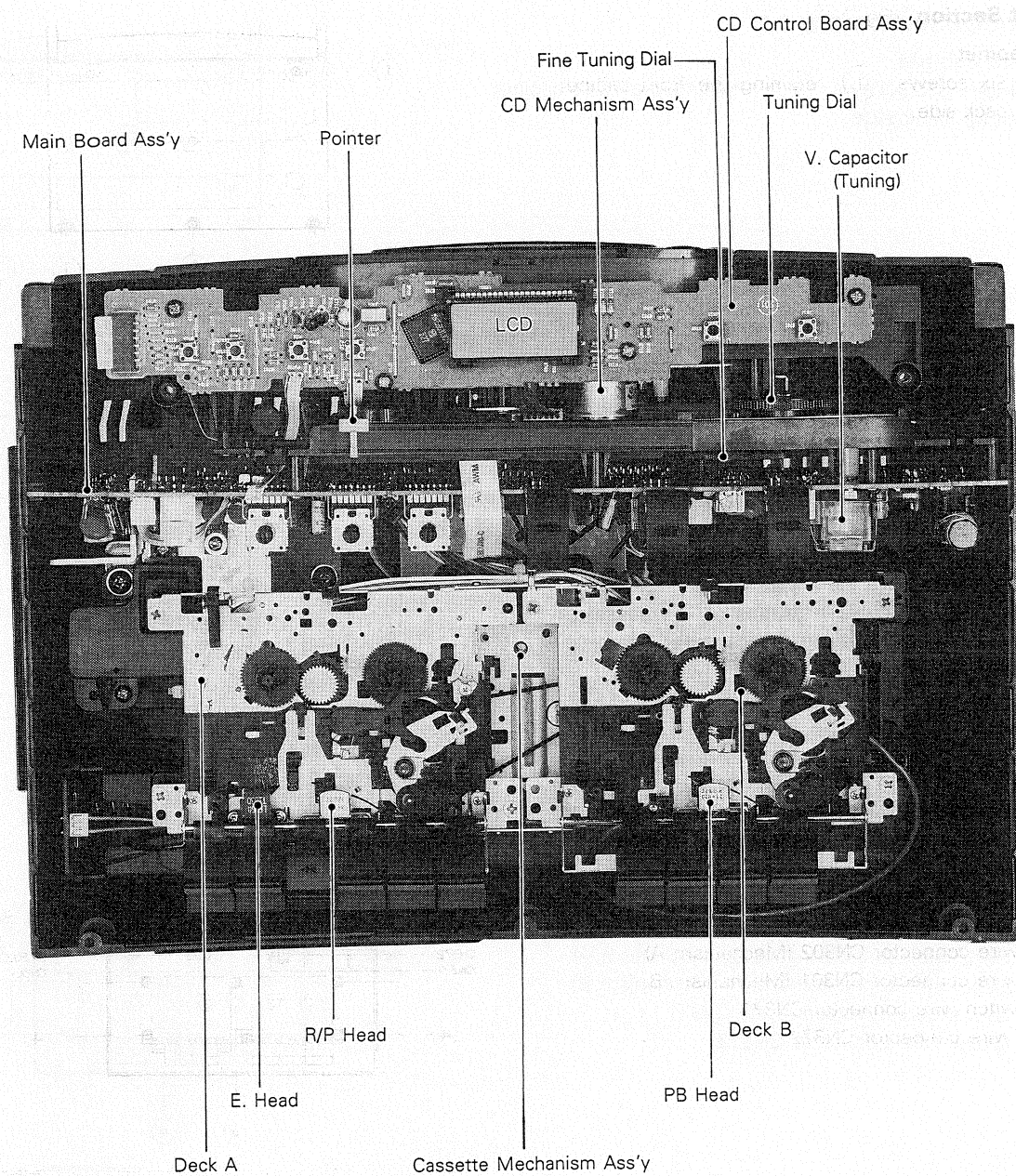


Fig. 1-1

2 Removal of Main Parts

■ Receiver Section

■ Cabinet Section (Fig. 2-1)

• Front Cabinet

1. Remove six screws (1) retaining the front cabinet from the back side.

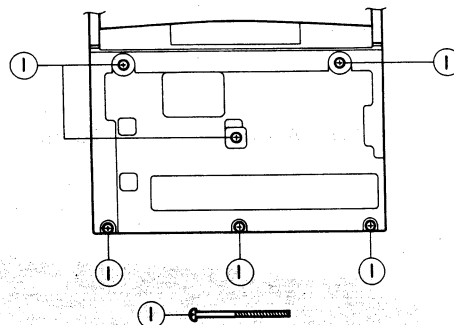


Fig. 2-1

2. Remove two screws (2) retaining the cabinet from the both sides of the front cabinet. (Fig. 2-2)
3. Pull out the knobs of POWER switch, VOLUME and TONE controls.

• How to remove knob:

Apply adhesive tape onto the knob and pull them together with to remove the knob.

4. Push the operation (EJECT) buttons of the cassette decks A and B while opening the cassette doors to remove the front cabinet.

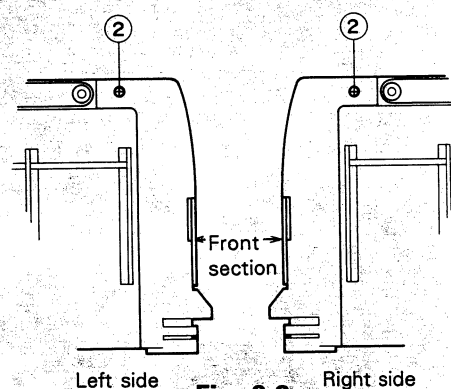


Fig. 2-2

• Cassette mechanism assembly (Fig. 2-3, Fig. 2-4)

1. Remove six screws (4) retaining the mechanism assembly.
2. Slightly lift the mechanism assembly upward and disconnect the following wire connections.
 - a) Head wire connector CN302 (Mechanism A)
 - b) Head wire connector CN301 (Mechanism B)
 - c) Leaf switch wire connector CN371
 - d) Motor wire connector CN372

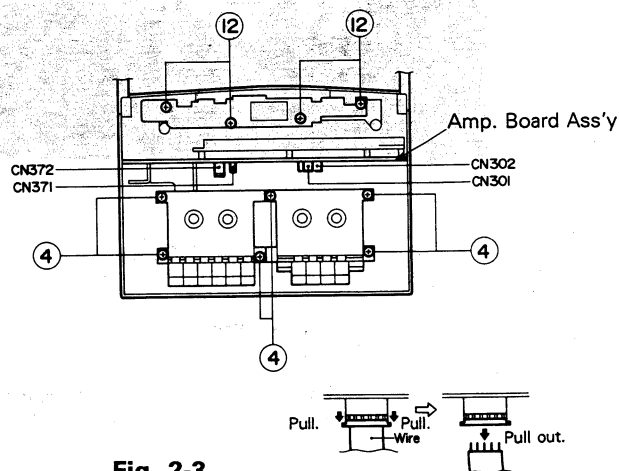


Fig. 2-3

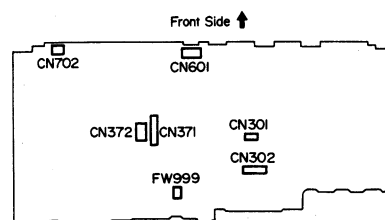


Fig. 2-4

• **Main board assembly** (Fig. 2-5)

1. Remove two screws (5) retaining the jack bracket.
2. Remove two screws (6) retaining the power transformer.
3. Remove one screw (7) retaining the mechanism holder.
4. Disconnect wires connecting with the CD section from the connectors CN702 and CN601 of the main board assembly, and remove the antenna wire from the TP.
5. Lock the speaker terminals, then, draw the main board assembly outward.

Note: In this condition, fuse can be replaced.

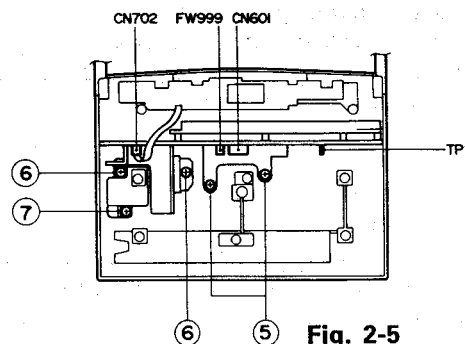


Fig. 2-5

• **CD unit**

1. Remove two screws (3) retaining the CD unit from the back side. (Fig. 2-6)
2. Remove four screws (12) to remove the control board assembly. (Fig. 2-3)

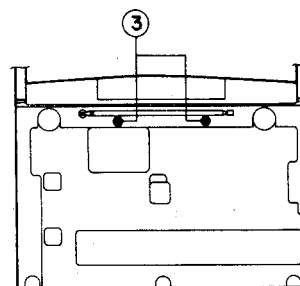


Fig. 2-6

■ **Disassembly of CD unit** (Fig. 2-7)

1. Disconnect the motor wire connector and remove the pickup.
2. Remove three screws (8) and (9) retaining the CD amp board assembly.
3. Remove four screws (10) retaining the CD mechanism.
4. Remove the mechanism holder and then conical spring (spindle side is black).

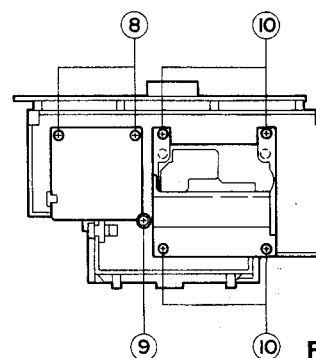


Fig. 2-7

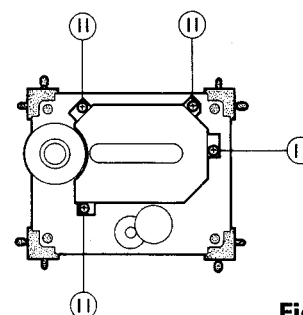


Fig. 2-8

■ **Replacement of pickup** (Fig. 2-8, Fig. 2-9)

1. Remove four screws (11) retaining the pickup cover.
2. Slide the pickup shaft stopper in the direction of the arrow while pull out the shaft toward the stopper side.

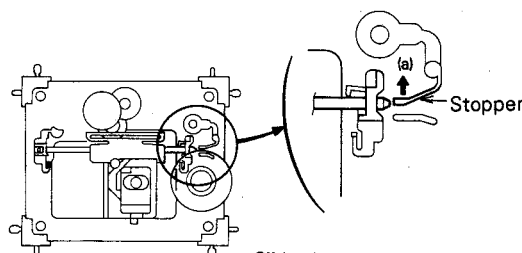


Fig. 2-9

Slide the stopper in the direction of (a). Then, pull out the shaft.

■ **CD door assembly** (Fig. 2-10)

1. Remove the CD door from the chassis.
2. Insert a screwdriver into the left gear section of the CD door to extend the door arm outward while removing it.

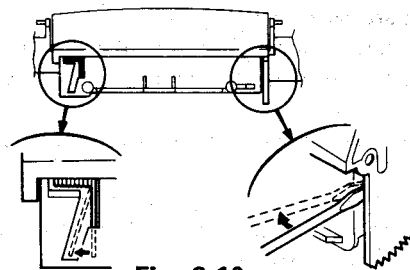


Fig. 2-10

■ **Cassette door** (Fig. 2-11)

1. Remove the door spring.
2. Insert a screwdriver between the door arm and the cabinet to bend the door arm in the direction of the arrow while removing the right and left door arms.

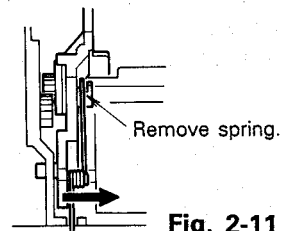


Fig. 2-11

• **Reassembly of tuner section** (Fig. 2-12)

1. Turn the tuning knob fully counterclockwise.
2. Set the "0Δ" mark of the dial drum to face that of the chassis.
3. Align the center of the pointer in the line between the center of the "0Δ" mark and the hole.
4. In the condition satisfying the above steps 2 and 3, fit the tuning knob again.

Align the center of the pointer in the line between "0" and the hole's center.

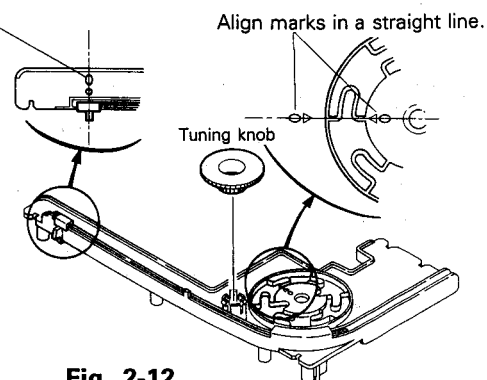


Fig. 2-12

• **Installation procedure:**

1. Turn the tuning control fully counterclockwise.
2. Set the "0Δ" mark of the dial drum to face that of the chassis.
(Shaft of the variable capacitor and the drum become engaged with each other.)
3. Align the center of the pointer in the line between the "0" mark and the center of the hole.
4. In the condition of the steps 2 and 3, fit the tuning knob.

■ Cassette Mechanism Section

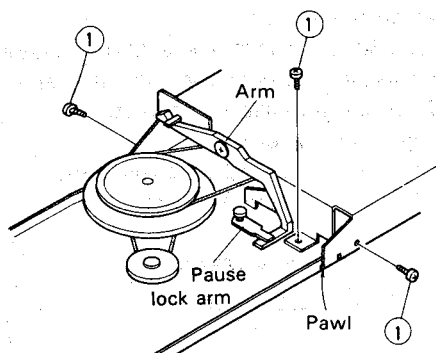


Fig. 2-13

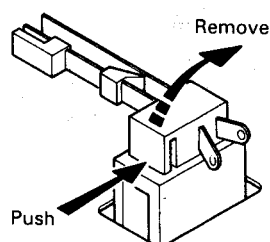


Fig. 2-15

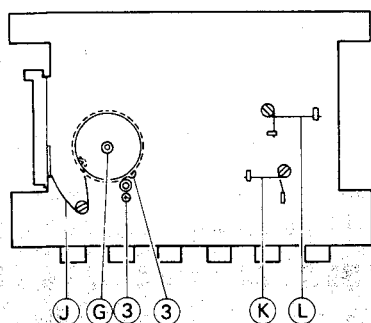


Fig. 2-17

■ Motor bracket (Recording/playback deck)

- 1) Remove the three screws ①.
- 2) Remove the chassis and M. bracket from the button side. Then remove the bracket arm (panel).
(The synchro arm can be removed from the pause lock. Return the pause lock after it is removed from the proper position.)

■ Head section (Fig. 2-14)

- 1) Remove the record/playback head's mounting screw ① and loosen screw ②.
- 2) Remove the erase head mounting screw ③ and ④.

■ Pinch roller (Fig. 2-14)

- 1) Remove the pinch roller arm stopper ⑤.

■ Flywheel ass'y (Fig. 2-14, Fig. 2-16)

- 1) Remove the C washer ⑥ securing the capstan shaft.
- 2) Pull out the flywheel ass'y.

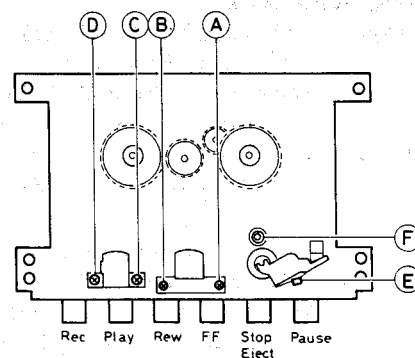


Fig. 2-14

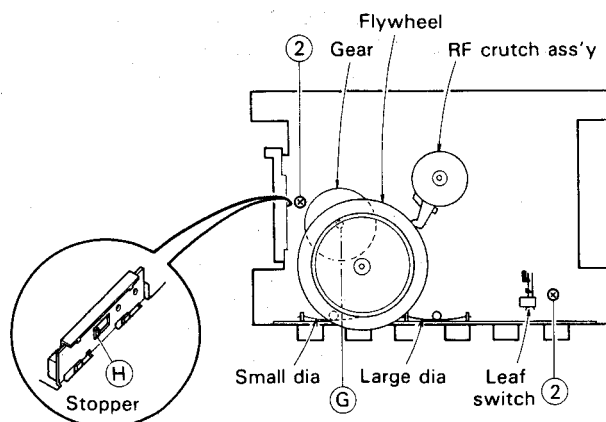


Fig. 2-16

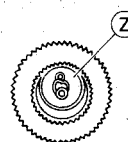


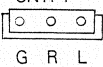
Fig. 2-18

■ Removal of the button ass'y from the mechanical chassis.

- Leaf switch (Fig. 2-15)
Press the switch's lock panel and raise from the left to remove.
- Gear (Below the flywheel) (Fig. 2-16, Fig. 2-18)
Remove the C washer ⑥ securing the gear.
For reassembly, insert the Sensing Lever arm stand into the ⑦ section.
- Lock arm (Fig. 2-16)
Press the arm stopper from window ⑧, and pull to remove.
- Chassis removal (Fig. 2-16, Fig. 2-17)
 - 1) Remove the three ⑨, ⑩, and ⑪ springs.
 - 2) Remove the two screws ⑫.
 - 3) Remove the two screws ⑬ securing the capstan metal.
 - 4) Gently remove the button ass'y from the chassis.

3 Main Adjustment

■ Measuring Conditions

- Supply voltage : 100–120/220–240 V AC, 50/60 Hz (J only)
120 V AC, 60 Hz (C only)
- Reference output: Speaker : 0 dBs (0.775 V)/3 Ω
Headphone : 0 dBs (0.775 V)/32 Ω
- Reference input: Test point (CNTP1): –30 dBs
Test point (CNTP1): –50 dBs 
(REC/PB characteristics check input)
- Switch setting : FUNCTION switch : TAPE
MODE switch : STEREO
TAPE SELECT switch : NORMAL
BEAT CUT switch : POSITION 1 or NORMAL
DUBBING SPEED switch : NORMAL
- Volume setting : BASS/TREBLE: Center
MAIN volume : for 0 dBs output level
- Tape to be used :
 - Normal tape for REC and PB
 - Test tapes
 - VTT712 (3 kHz, 0 dB) : for measurement of wow & flutter, tape speed
 - VTT724 (1 kHz, –4 dB) : for standard level adjustment
 - VTT703 (10 kHz, –10 dB) : for azimuth adjustment
 - VTT736 (8 kHz/1 kHz/125 Hz) : for measurement of PB frequency response

• Attentive point

- Connection of IF sweeper:
 - Connect a 30 pF capacitor and a 33 k Ω resistor in series to the sweeper's output while 0.082 μ F capacitor and a 100 k Ω resistor in parallel to the input.
- IF sweeper's output level:
 - Set as minimum as enough for adjustment.

Loop Antenna

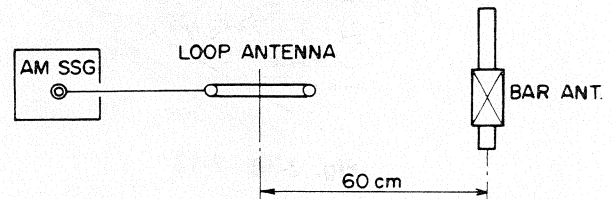
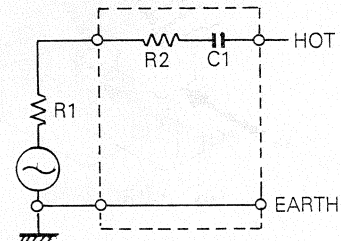


Fig. 3-1

Dummy antenna for short wave.



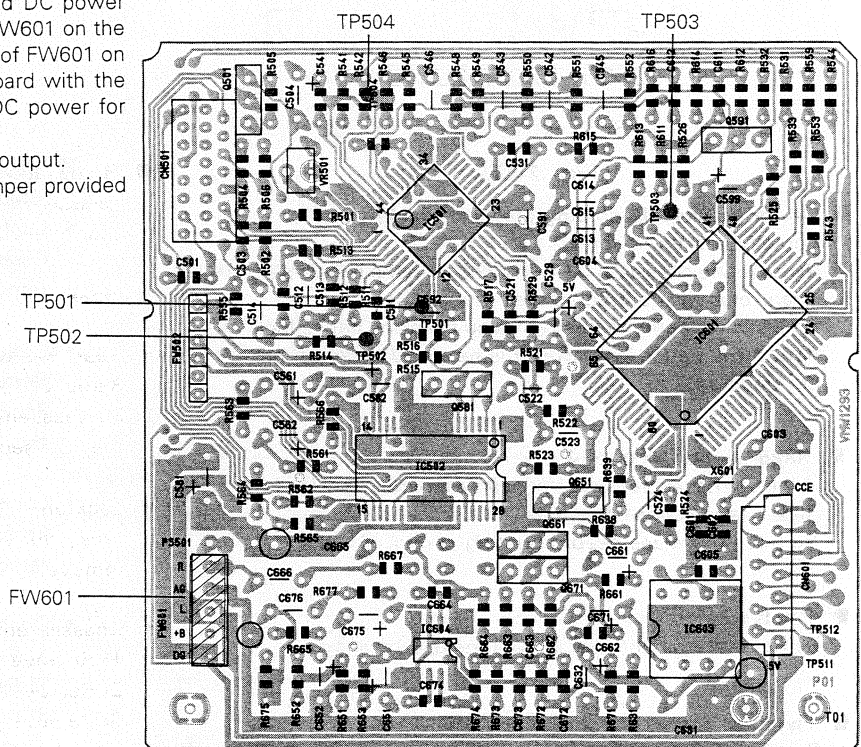
Rod length (cm)	L > 90	90 > L > 60	L < 60
C1 (PE)	10	8	6

R1 + R2 = 80 Ω R1 : Output impedance of SSG.

■ CD Player Adjustment

• To run CD player individually for adjustment:

- Supply +6 V DC power from the regulated DC power supply to the line between +B and DG of FW601 on the CD board (VMW1293), or connect the pin 5 of FW601 on the CD board (VMW1293) and the amp board with the provided extension cord to supply +6 V DC power for adjustment.
- Apply load resistance of 47 k Ω to the audio output.
- When loading a disc, use the magnet clumper provided with the set or equivalent.



CD BOARD

Fig. 3-2

● Tracking Offset Adjustment

- **Required things :** Oscilloscope
Normal disc (CTS1000)
- **Adjustment procedure:**
 - (1) Connect TP503 (Hot side) to an oscilloscope while connect TP501 (Earth side) to GND.
 - (2) Play back a normal disc to check if tracking error signal is output or nor.
 - (3) Shortcircuit between TP504 and TP501.
 - (4) Adjust VR501 so that DC level of tracking error signal is on the "0" (zero) level.

Note: Adjust VR501 so that the waveform becomes vertically symmetrical.
Oscilloscope input should be DC coupling.

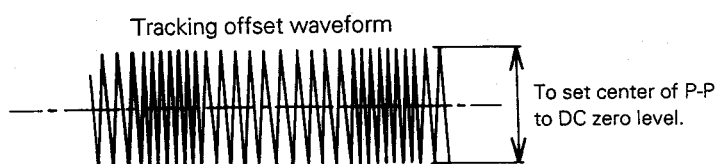
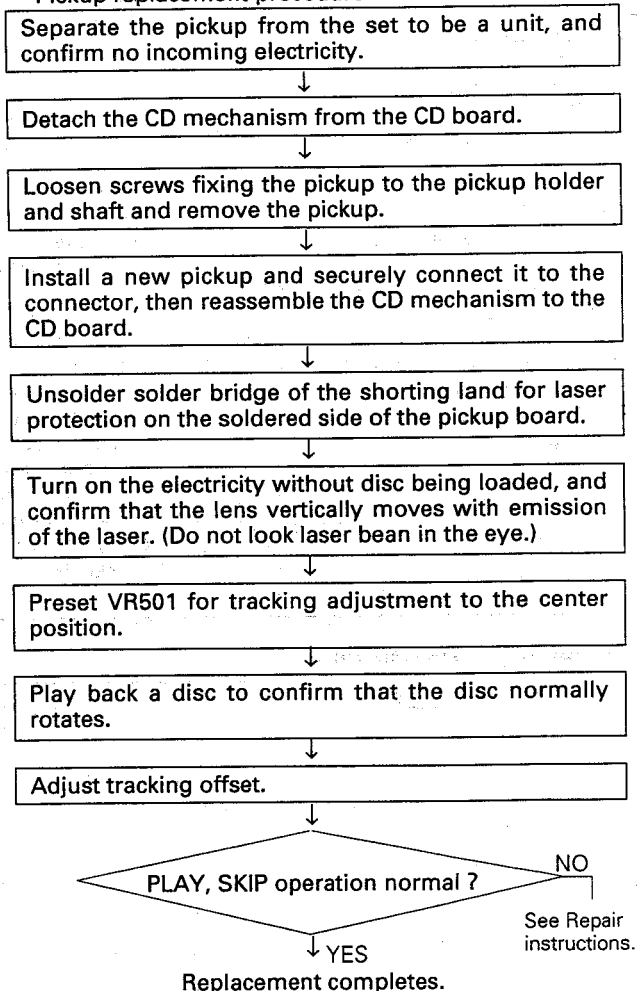


Fig. 3-3

● Maintenance of CD pickup


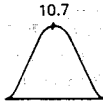
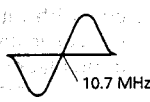
- **To confirm the service life of laser diode**
 - (1) Load the set with a disc and turn on the power switch.
 - (2) Press the PLAY button to play back the disc.
 - (3) Observe RF output with an oscilloscope. If it is 0.6 V_{p-p} or less, clean the object lens with a cotton swab. Again measure RF output. If it is still under 0.6 V_{p-p}, the laser diode maybe gets having had it. In that event, replace the pickup following the instructions.
- **Semi-fixed resistor on the pickup board**
The semi-fixed resistor on the pickup board installed on the pickup are prepared for laser power adjustment. Since this adjustment must be performed in accordance with the properties of the optical block, do not disturb this semi-fixed resistor.
When laser power is poor, it results from wear of the laser diode and it needs to replace.
If the semi-fixed resistor of the normal pickup is turned, it may be damaged by overcurrent.
- **Grating adjustment**
Grating has been adjusted well in the unit condition. If it is maladjusted, playback of CD may become impossible since laser beam traces another track.
- **APC (automatic program control)**
In the OPTIMA5, APC is prepared in the CD mechanism, however, in the OPTIMA6, an IC on the CD board functions as APC. (CD mechanism has no APC function.)

• Pickup replacement procedure



■ Tuner Alignment

• Basic conditions

POWER SOURCE OF THE RECEIVER	AC : 240 V (B) 230 V (E/G/GI/EN) 50/60 Hz DC : 12 V (Connect 47 Ω resistor to Tuner Input.)
LOAD RESISTANCE OF THE RECEIVER	50 mW (0.39 V)/3 Ω
MODULATION OF SSG	AM : 400 Hz, 30 %, FM: 400 Hz, 22.5 kHz dev.
Item	Description
1. AM IF ALIGNMENT (The unit should not usually require adjustment. Follow the steps below when adjustments are necessary.)	
1-1 Conditions of the receiver (1) Power source: (2) Function switch position: (3) Band select switch: (4) Volume control: (5) BASS/TRE control: (6) Reception frequency:	7.0 V DC (When the power is supplied directly to the tuner in the receiver, the voltage should be adjusted to the proper level which shall be required by the tuner.) (Connect 47 Ω in series when applying 7 V to tune unit) TUNER MW Minimum gain position Center position Set the reception frequency to the highest position and to the position where the signal does not enter.
1-2 Connection of sweeper and the receiver (1) Tuner input: (2) Tuner output:	Positive side to TP3 Positive side to TP6, Negative side to TP7
1-3 Aligning position:	T2
1-4 Alignment (waveform):	Adjust MW IFT (above mentioned aligning position) so that maximum and symmetrical waveform can be obtained. In this case, the wavehead should appear at the center marker (450 kHz) on the scope of sweeper.
	
2. FM IF ALIGNMENT (The unit should not usually require adjustment. Follow the steps below when adjustments are necessary.)	
2-1 Conditions of the receiver (1) Power source: (2) Function switch position: (3) Band select switch: (4) Volume control: (5) BASS/TRE control: (6) Reception frequency:	Same as mentioned in item 1-1 TUNER FM Minimum gain position Center position Set the reception frequency to the highest position and to the position where the signal does not enter.
2-2 Connection of sweeper and the receiver (1) Tuner input: (2) Tuner output:	Positive side to TP5 Positive side to TP6, Negative side to TP7
Note: a) Attach a capacitor (30 pF) and resistor (33 k Ω) to the positive side cable which shall be led from sweeper output. b) Attach a resistor (100 k Ω) in series to the positive side cable which shall be led from sweeper input.	
2-3 Aligning position:	Discriminate waveform : T1 ("S" curve waveform)
2-4 Alignment (waveform):	1. Disconnect CF3 to change waveform from S-curve (Fig. B) to singlepeak waveform (Fig. A). 2. Turn T1 to shape waveform so that it peaks in the center (10.7 MHz) of the waveform and is symmetrical in both sides. 3. Connect CF3 again and confirm that waveform returns to the original (Fig. B).
 Fig. A	 Fig. B

■ Adjusting Parts Location

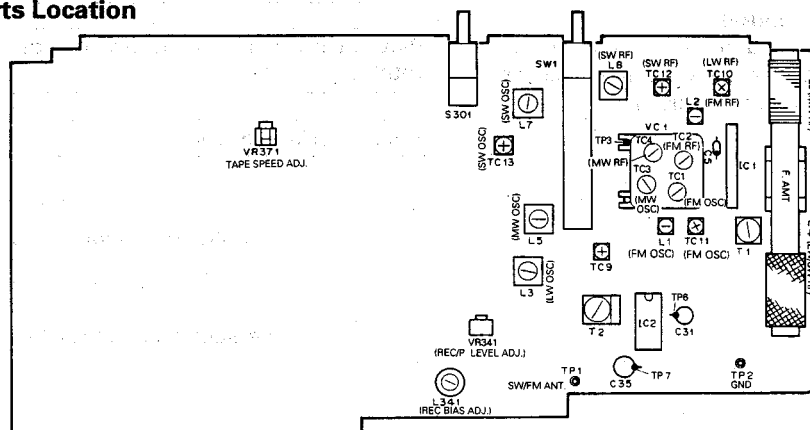
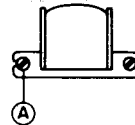


Fig. 3-4

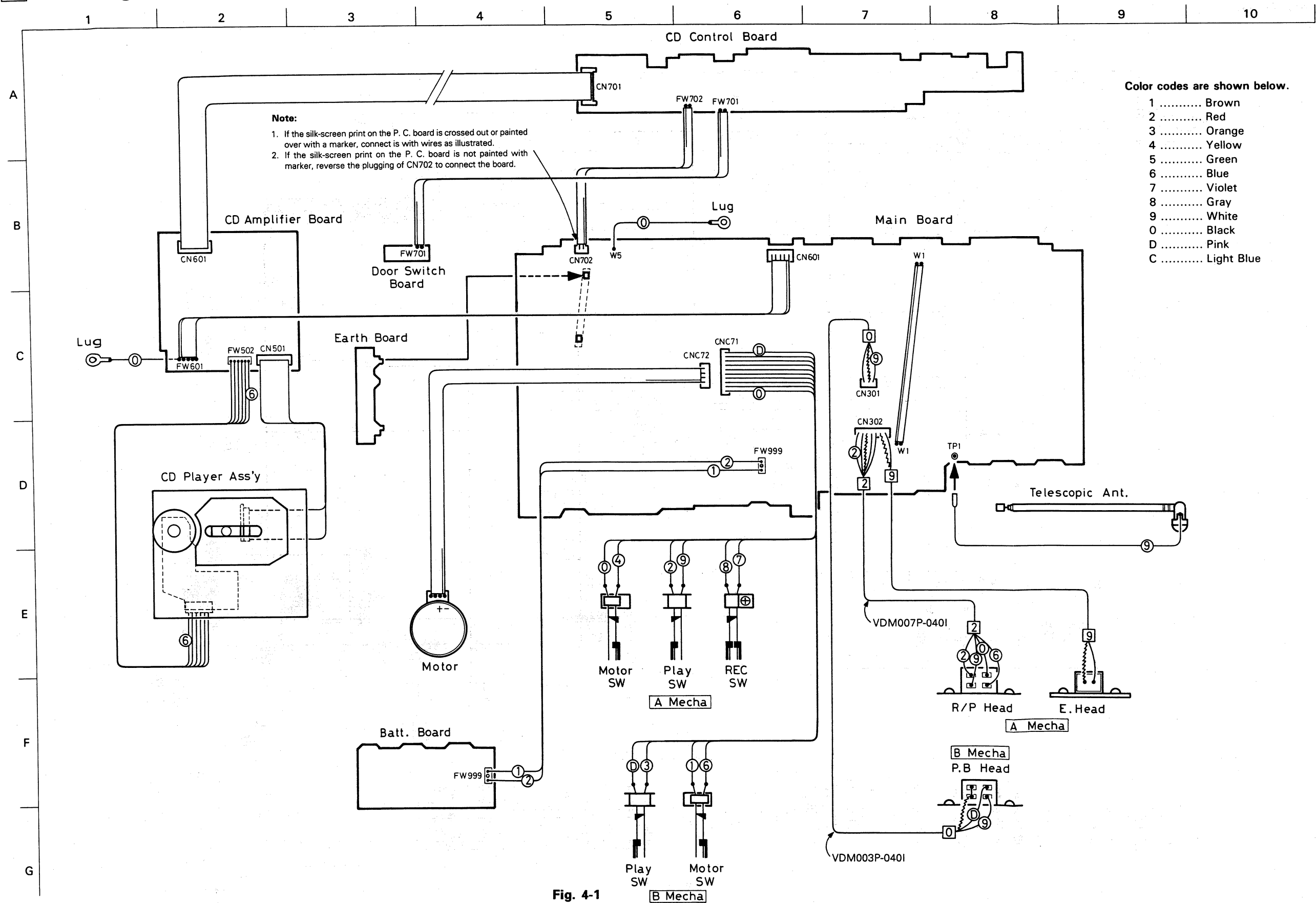
Item			Description		
3. MW RF ALIGNMENT					
3-1 Conditions of the receiver			Same as mentioned in item 1-1 TUNER MW Approx. 50 mW Center position Refer to the following list shown in item 3-4.		
(1) Power source:					
(2) Function switch position:					
(3) Band select switch:					
(4) Volume control:					
(5) BASS/TRE control:					
(6) Variable capacitor:					
3-2 Connection of SSG			400 Hz, 30 % Refer to the following list shown in item 3-4. The level shall be decided by the load resistance of the receiver mentioned in the basic conditions. Speaker terminal		
(1) Modulation:					
(2) Frequency:					
(3) Output level of the attenuator in SSG:					
3-3 Output measuring position:					
3-4 Alignment:					
	Band Select Switch Position	Sort of Antenna to be attached to SSG	Frequency of SSG	Variable Capacitor Position	Aligning Position
1	LW	Loop Antenna	145 kHz (B/E/G/EN) 138 kHz (GI)	Max. capacity	L3
2			290 kHz (B/E/G/EN) 293 kHz (GI)	Min. capacity	TC9
3			Adjust the above aligning position (L3 & TC3) repeatedly so that the tuner can receive above frequency range (bandwidth).		
4			145 kHz (B/E/G/EN) 138 kHz (GI)	To receive 145 kHz 138 kHz	L4
5			290 kHz (B/E/G/EN) 293 kHz (GI)	To receive 290 kHz 293 kHz	TC10
6			Adjust the above aligning position (L4 & TC10) repeatedly so that the tuner can obtain the best sensitivity.		
	Band Select Switch Position	Sort of Antenna to be attached to SSG	Frequency of SSG	Variable Capacitor Position	Aligning Position
7	MW	Loop Antenna	520 kHz (B/E/G/EN) 516 kHz (GI)	Max. capacity	L5
8			1,650 kHz (B/E/G/EN) 1,632 kHz (GI)	Min. capacity	TC5
9			Adjust the above aligning position (L5 & TC3) repeatedly so that the tuner can receive above frequency range (bandwidth).		
10			600 kHz	To receive 600 kHz	L6
11			1,500 kHz (B/E/G/EN) 1,400 kHz (GI)	To receive 1,500 kHz 1,400 kHz	TC4
12			Adjust the above aligning position (L6 & TC4) repeatedly so that the tuner can obtain the best sensitivity.		
	Band Select Switch Position	Sort of Antenna to be attached to SSG	Frequency of SSG	Variable Capacitor Position	Aligning Position
13	SW	Loop Antenna	5.8 MHz	Max. capacity	L7
14			18.6 MHz	Min. capacity	TC13
15			Adjust the above aligning position (L7 & TC13) repeatedly so that the tuner can receive above frequency range (bandwidth).		
16			6 MHz	To receive 6 MHz	L8
17			18 MHz	To receive 18 MHz	TC12
18			Adjust the above aligning position (L8 & TC12) repeatedly so that the tuner can obtain the best sensitivity.		
4. FM IF ALIGNMENT					
4-1 Conditions of the receiver			Same as mentioned in item 1-1 TUNER Approx. 50 mW Center position Refer to the following list shown in item 4-4.		
(1) Power source:					
(2) Function switch position:					
(3) Volume control:					
(4) BASS/TRE control:					
(5) Variable capacitor:					

Item			Description		
4-2 Connection of FM SSG (1) Modulation: (2) Frequency: (3) Output level of the attenuator in FM SSG:			400 Hz, 22.5 kHz dev. Refer to the following list shown in item 4-4. The level shall be decided by the load resistance of the receiver mentioned in the basic conditions.		
4-3 Connection of sweeper and the receiver (1) Tuner input: (2) Output measuring position:			Positive side to TP1, Negative side to TP2 Speaker terminal		
4-4 Alignment					
	Band Select Switch Position	Sort of Antenna to be attached to SSG	Frequency of SSG	Variable Capacitor Position	Aligning Position
1	FM (E/B/EN)	Dummy Antenna (75 Ω , unbalanced)	87.5 MHz (B/E/G/EN) 87.35 MHz (GI)	Max. capacity	L1
2			109.0 MHz (B/E/EN) 108.3 MHz (G/GI)	Min. capacity	TC1, 11
3			Adjust the above aligning position (L1 & TC1, 11) repeatedly so that the tuner can receive above frequency range (bandwidth).		
4			90 MHz	To receive 90.0 MHz	L2
5			106.0 MHz	To receive 106.0 MHz	TC2
6			Adjust the above aligning position (L2 & TC2) repeatedly so that the tuner can obtain the best sensitivity.		
5. FM MPX ALIGNMENT					
• 19 kHz Alignment (Regular method)					
(1) Connect a frequency counter through 100 k Ω load to the test point TP4 (earth = TP3).					
(2) Supply the monaural signal (98 MHz, 60 dB) across the test points TP5 and TP6.					
(3) Adjust the semi-fixed resistor VR1 so that the frequency becomes 19 kHz \pm 10 Hz.					

■ Deck Adjustment

Item	Tape to be used	Check and Adjustment Procedure	Switch Position	Adjusting Point
Head azimuth adjustment	VTT703 (10 kHz)	For both of mechanism A and B, adjust setscrews to maximize output level and to minimize phase difference between R and L channels. After adjustments, apply screw sealant to lock setscrews. If fine adjustment is needed after reassembly, do it by inserting a screwdriver through the adjusting hole between the door and button.	TAPE: NORMAL • Mechanism A 	Mechanism A (REC/PB): Left setscrew Mechanism B(PB): Left setscrew
Tape speed adjustment	VTT712 (3 kHz)	Play the test tape VTT712 on the mechanism A and adjust VR371 so that frequency counter reads 3010 \pm 10 Hz. Set the DUBBING switch to HIGH speed, and play back the test tape on the mechanism B and record it on the mechanism A while confirming tape speed of 5200 to 5800 Hz.	TAPE: NORMAL TAPE: HIGH	VR371 Mechanism A: Adjust nearly with tape end.
Wow & flutter check	VTT712 (1 kHz)	Must be within 0.38 % (JIS Unweighted)	TAPE: NORMAL	
PB output level check	VTT724 (1 kHz)	Play back VTT724 test tape while confirming that speaker output is 2.7 V or more as the volume is set to maximum.	TAPE: NORMAL	
PB frequency response check	VTT736	Confirm respective frequencies as compared with 1 kHz. 8 kHz signal: +0 \pm 3 dB, 125 Hz signal: +2 \pm 3 dB	TAPE: NORMAL	
REC bias frequency adjustment	(TS-8) Normal tape	First confirm nothing wrong, then adjust as follows. Set the BEAT CUT switch (S103) to the position 1 and adjust L341 so that oscillation frequency is 67.5 kHz \pm 2 kHz at the terminal of C345. (For this adjustment, connect 1 M Ω resistor in series.)	S301 (BEAT CUT) Position 1: 70 kHz Position 2: 67.5 kHz	L341
REC frequency response adjustment	(TS-8) Normal tape	Supply 1 kHz, -3 dBs signal to TP1 input while confirming that REC/PB output level is 0 \pm 3 dB compared with monitor level.		
REC/PB output level check	(TS-8) Normal tape	Mechanism A: Input reference signals to TP1 and adjust VR341 so that REC/PB output level is as follows compared with 1 kHz level. (Reference input level: 50 dB) 8 kHz signal: 0 dB \pm 3 dB, 125 Hz signal: +1 dB \pm 3 dB		VR341

4 Wiring Connection



5 Standard Schematic Diagram

■ Amplifier Circuit

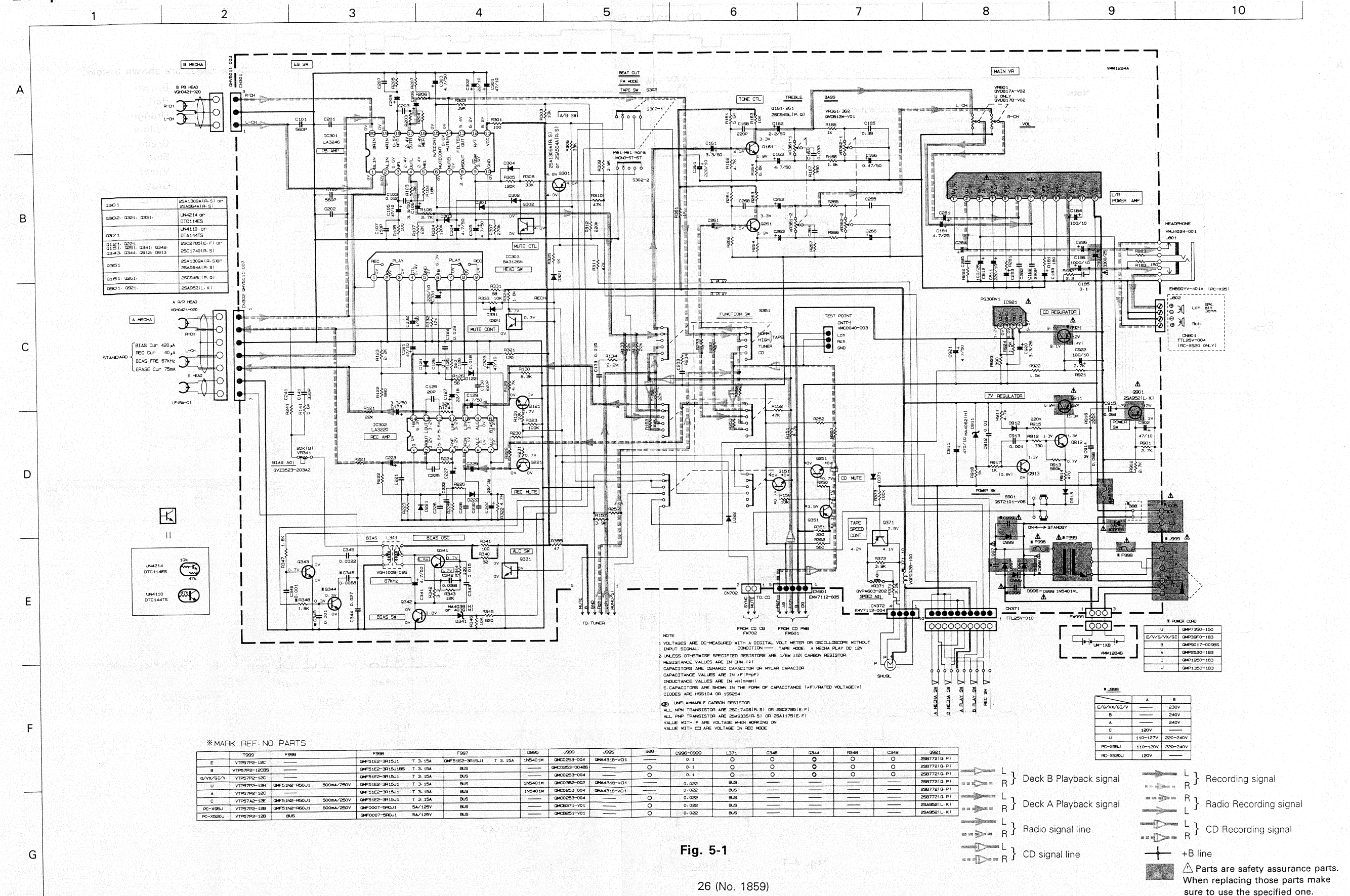


Fig. 5-1

■ CD Amplifier Circuit

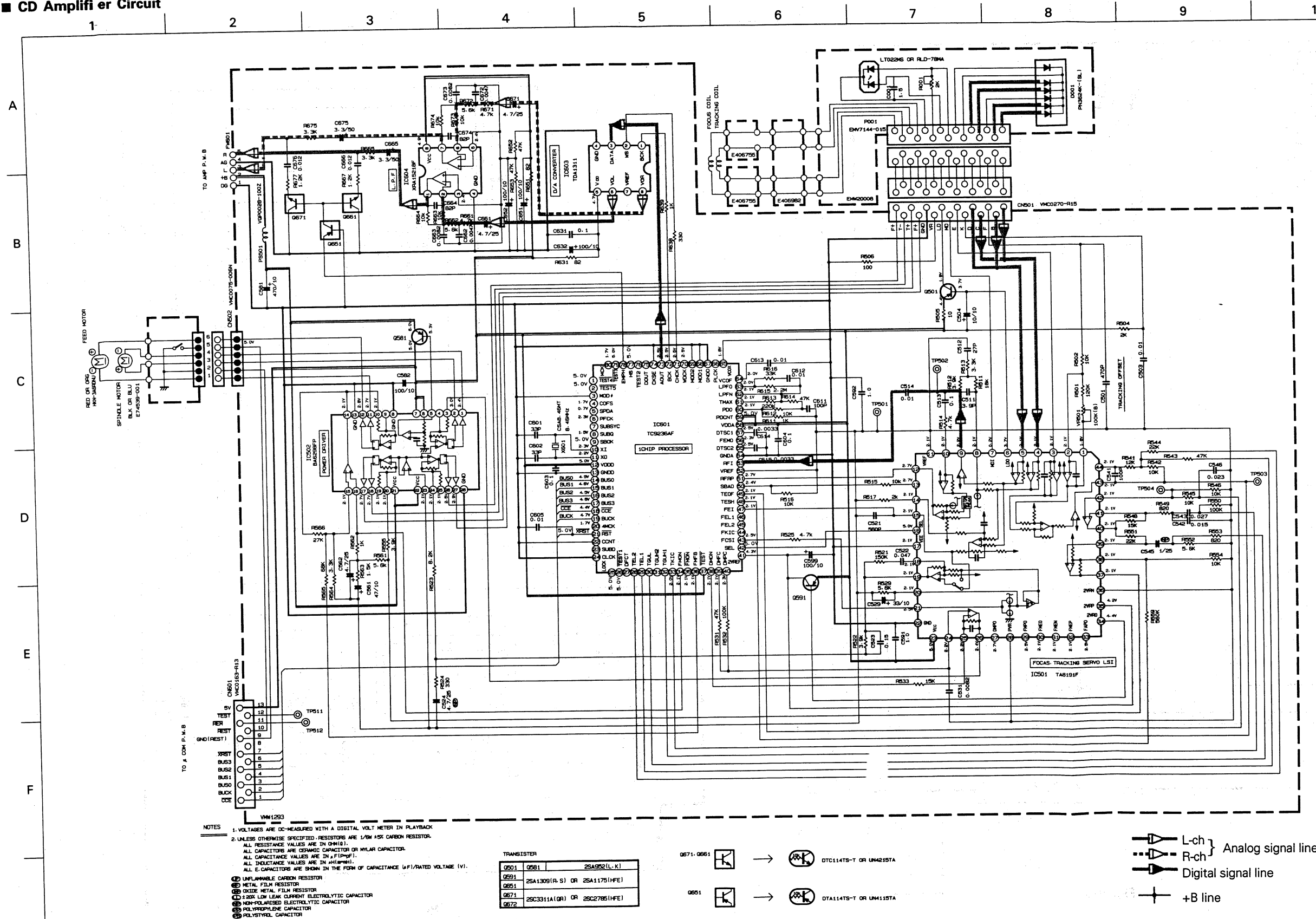
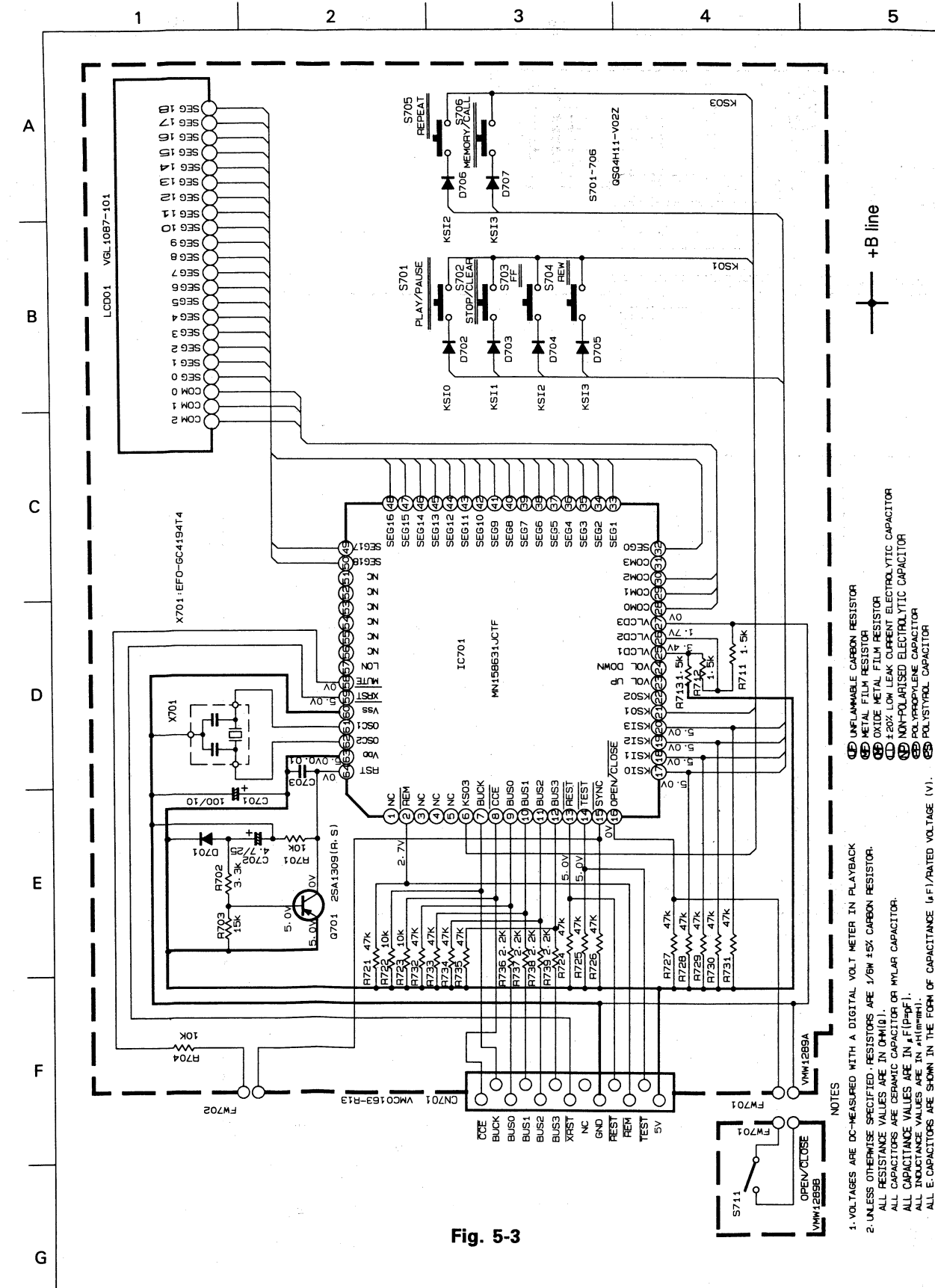
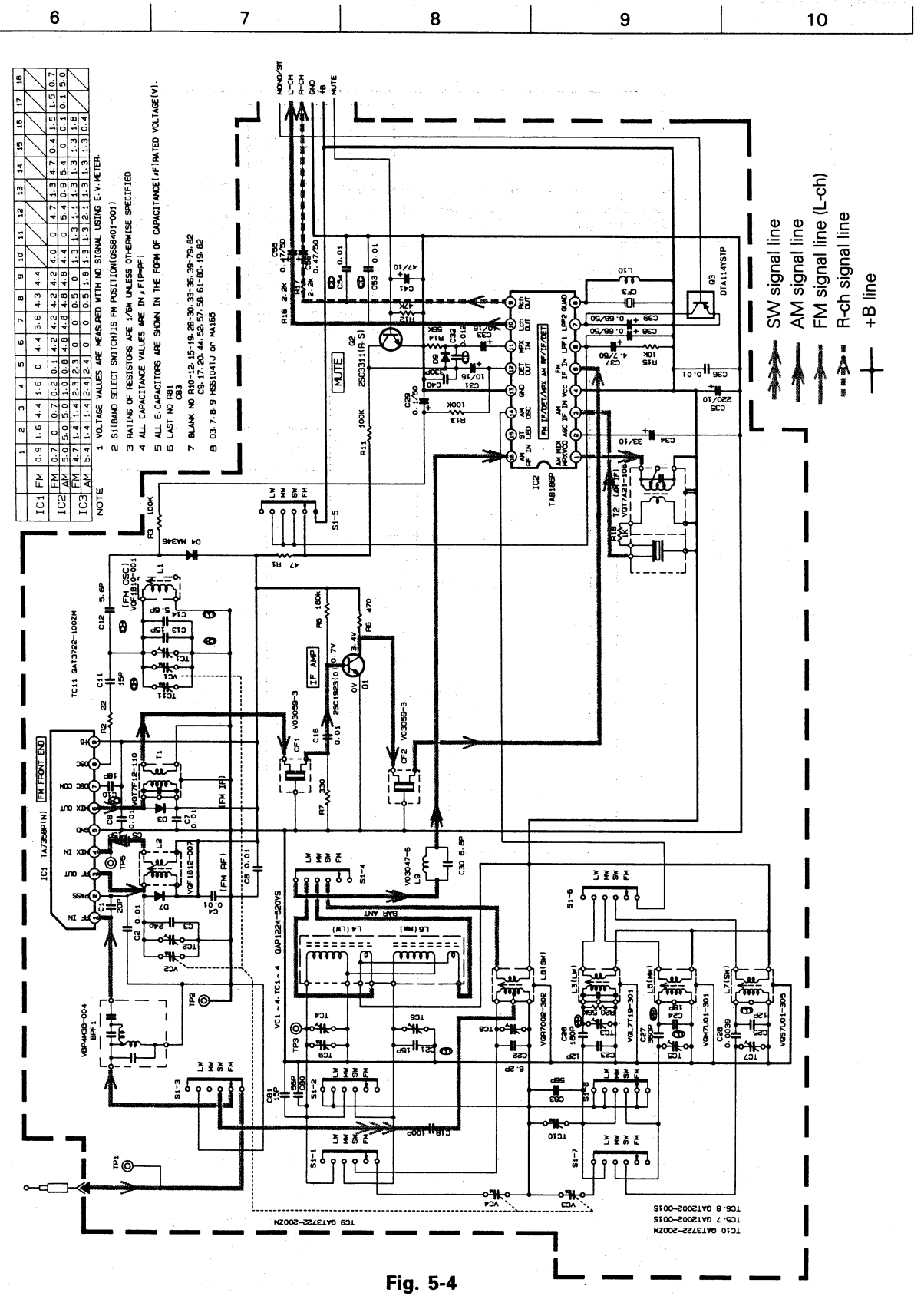


Fig. 5-2

■ CD Control Circuit



■ Tuner Circuit



6 Block Diagram

■ Tuner Section

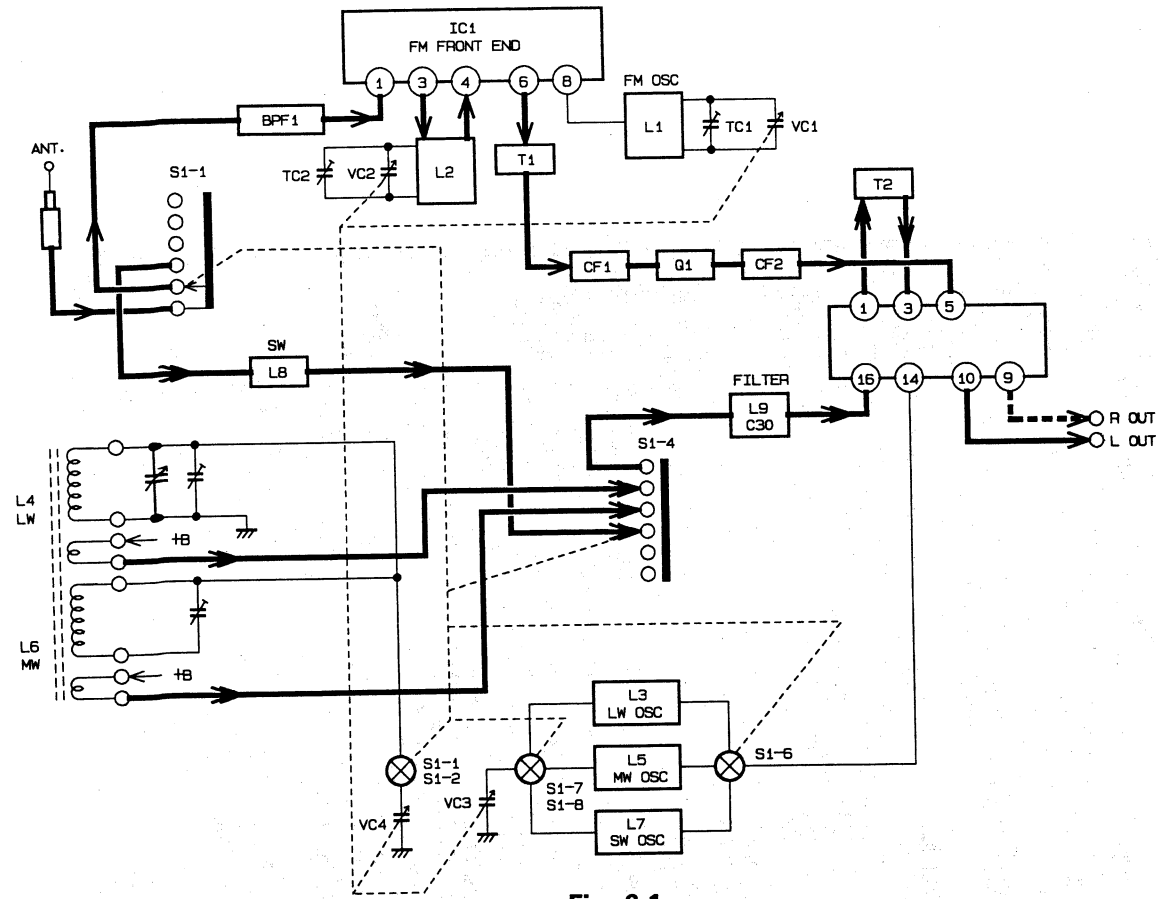


Fig. 6-1

■ Amplifier Section

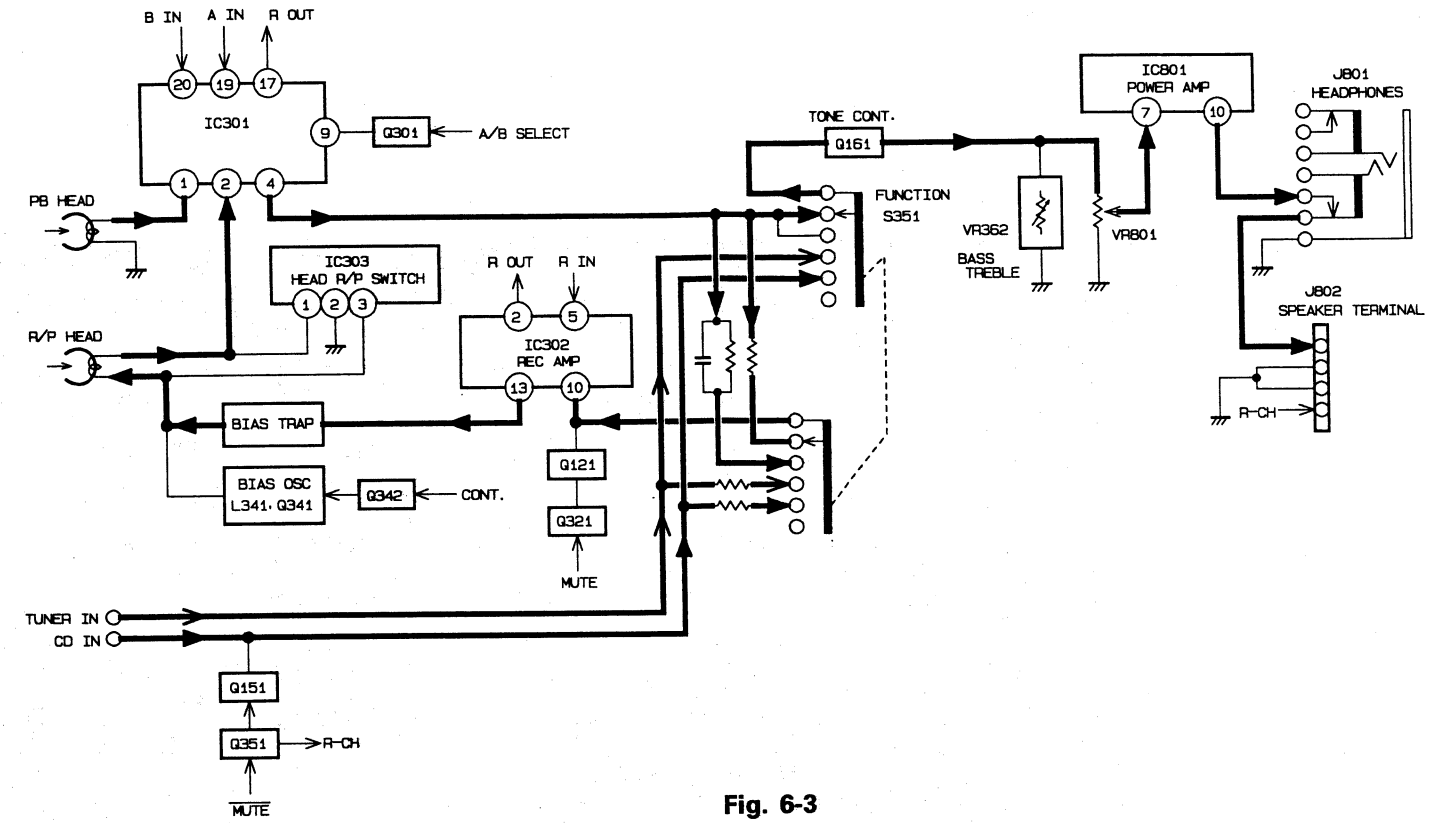


Fig. 6-3

■ CD Section

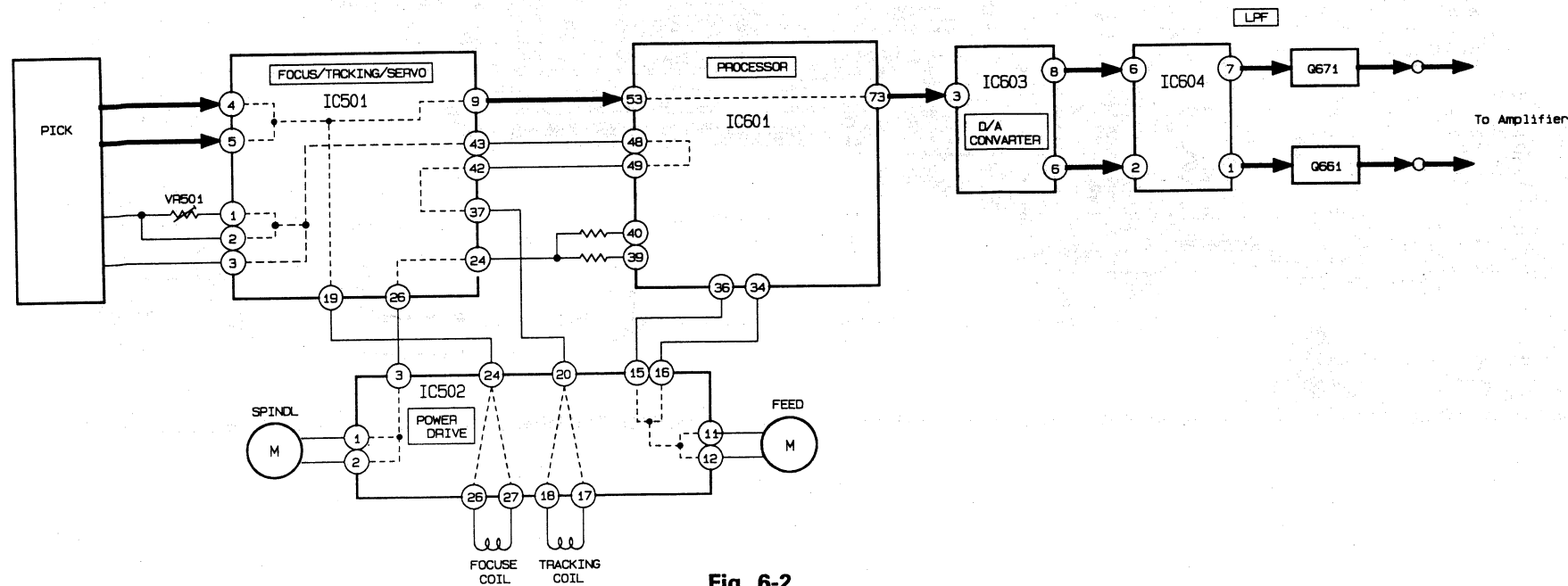


Fig. 6-2

7 Location of P. C. Board and Parts List

■ Main Board 0 1

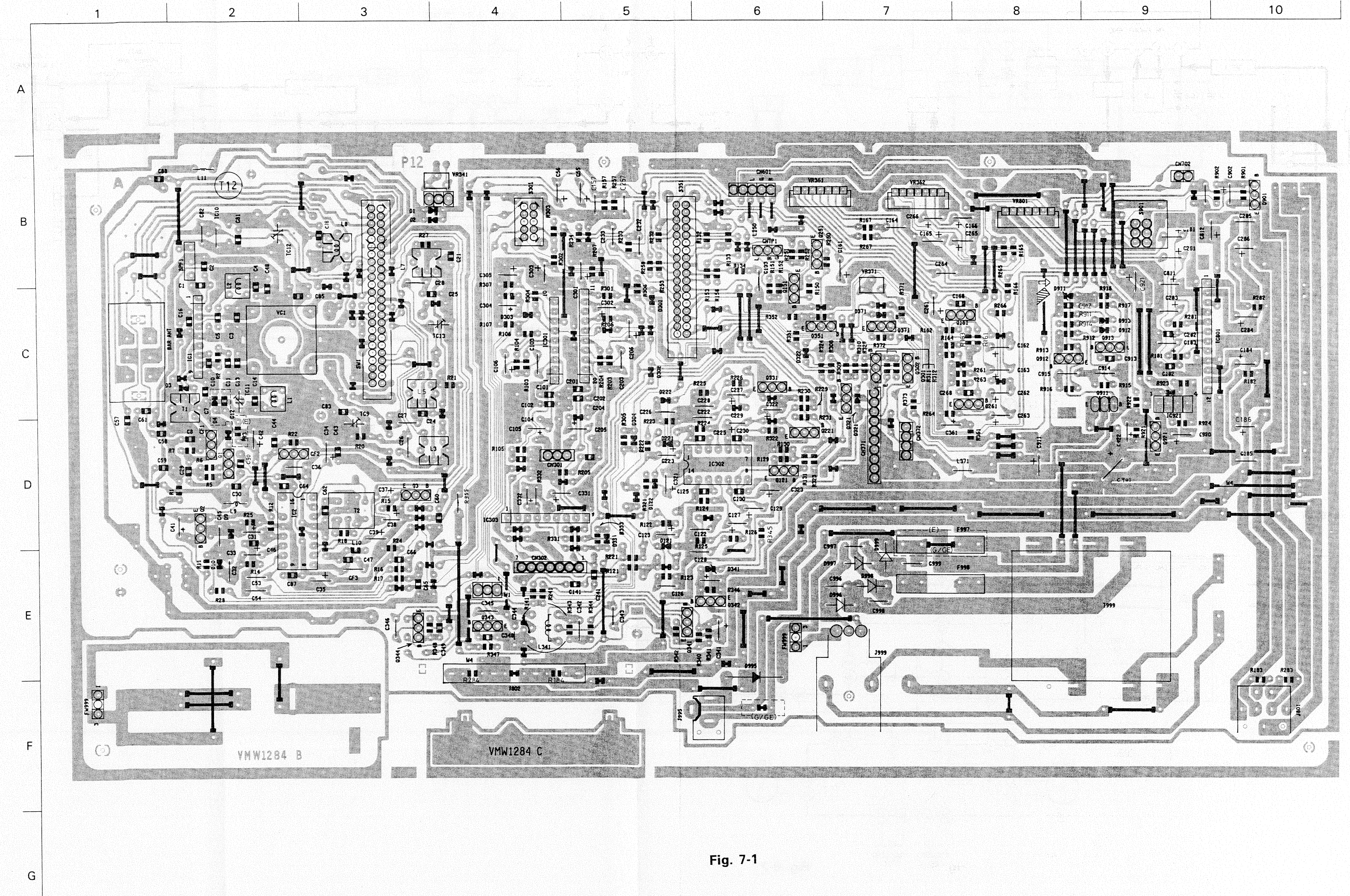


Fig. 7-1

▲ Parts are safety assurance parts.

When replacing those parts, make sure to use the specified one.

Main Board Parts List

A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	C 123	QETC1HM-335ZN	E CAPACITOR	3.3MF 20% 50V	
	C 125	QCS11HJ-200	C CAPACITOR	20PF 5% 50V	
	C 126	QCS11HJ-200	C CAPACITOR	20PF 5% 50V	
	C 127	QETC1CM-226ZN	E CAPACITOR	22MF 20% 16V	
	C 128	QCS11HJ-240	C CAPACITOR	24PF 5% 50V	
	C 129	QETC1HM-475ZN	E CAPACITOR	47MF 20% 50V	
	C 130	QCS11HJ-200	C CAPACITOR	20PF 5% 50V	
	C 133	QFLC1HJ-153ZM	M CAPACITOR	0.15MF 5% 50V	
	C 141	QCS11HJ-240	C CAPACITOR	24PF 5% 50V	
	C 157	QCVB1CN-103Y	C CAPACITOR	30PF 10% 50V	
	C 161	QETC1HM-335ZN	E CAPACITOR	3.3MF 20% 50V	
	C 162	QETC1HM-225ZN	E CAPACITOR	2.2MF 20% 50V	
	C 163	QETC1HM-475ZN	E CAPACITOR	47MF 20% 50V	
	C 164	QFLC1HJ-335ZM	M CAPACITOR	0.33MF 5% 50V	
	C 166	QETC1HM-474ZN	E CAPACITOR	47MF 20% 50V	
	C 168	QCS11HJ-200	C CAPACITOR	20PF 5% 50V	
	C 181	QER41EM-475VM	E CAPACITOR	47MF 20% 25V	
	C 182	QCS11HJ-200	C CAPACITOR	20PF 5% 50V	
	C 183	QER61AM-476ZM	E CAPACITOR	47MF 20% 10V	
	C 184	QETC1HM-107ZN	E CAPACITOR	100MF 20% 10V	
	C 185	QCC11EM-104V	C CAPACITOR	0.10MF 20% 25V	
	C 186	QETC1HM-108ZN	E CAPACITOR	100MF 20% 10V	
	C 201	QCS11HJ-200	C CAPACITOR	20PF 5% 50V	
	C 202	QCS11HJ-200	C CAPACITOR	20PF 5% 50V	
	C 203	QFLC1HJ-153ZM	M CAPACITOR	0.15MF 5% 50V	
	C 204	QCS11HJ-200	C CAPACITOR	20PF 5% 50V	
	C 205	QETC1HM-476ZN	E CAPACITOR	47MF 20% 10V	
	C 206	QETC1HM-335Z	E CAPACITOR	3.3MF 20% 50V	
	C 222	QCC31EM-393ZV	E CAPACITOR	0.39MF 20% 25V	
	C 223	QETC1HM-335ZN	E CAPACITOR	3.3MF 20% 50V	
	C 225	QCS11HJ-200	C CAPACITOR	20PF 5% 50V	
	C 226	QCC11EM-104V	C CAPACITOR	0.10MF 20% 25V	
	C 227	QETC1CM-226ZN	E CAPACITOR	22MF 20% 16V	
	C 228	QCC31EM-183ZV	E CAPACITOR	0.18MF 20% 25V	
	C 229	QETC1HM-475ZN	E CAPACITOR	47MF 20% 50V	
	C 230	QCS11HJ-200	C CAPACITOR	20PF 5% 50V	
	C 233	QFLC1HJ-153ZM	M CAPACITOR	0.15MF 5% 50V	
	C 241	QCS11HJ-200	C CAPACITOR	20PF 5% 50V	
	C 257	QCVB1CN-103Y	C CAPACITOR	30PF 10% 50V	
	C 261	QETC1HM-335ZN	E CAPACITOR	3.3MF 20% 50V	
	C 262	QETC1HM-225ZN	E CAPACITOR	2.2MF 20% 50V	
	C 263	QETC1HM-475ZN	E CAPACITOR	47MF 20% 50V	
	C 264	QFLC1HJ-335ZM	M CAPACITOR	0.33MF 5% 50V	
	C 266	QETC1HM-474ZN	E CAPACITOR	47MF 20% 50V	
	C 268	QCS11HJ-200	C CAPACITOR	20PF 5% 50V	
	C 281	QER11EM-475VM	E CAPACITOR	47MF 20% 25V	
	C 282	QCS11HJ-200	C CAPACITOR	20PF 5% 50V	
	C 283	QER11EM-475VM	E CAPACITOR	47MF 20% 10V	
	C 284	QETC1HM-107ZN	E CAPACITOR	100MF 20% 10V	
	C 285	QCC11EM-104V	C CAPACITOR	0.10MF 20% 25V	
	C 286	QETC1HM-108ZN	E CAPACITOR	100MF 20% 10V	
	C 301	QETC1HM-476ZN	E CAPACITOR	47MF 20% 10V	
	C 302	QETC1CM-226ZN	E CAPACITOR	22MF 20% 16V	
	C 303	QETC1HM-475ZN	E CAPACITOR	47MF 20% 50V	
	C 304	QETC1HM-475ZN	E CAPACITOR	47MF 20% 50V	
	C 305	QETC1HM-475ZN	E CAPACITOR	47MF 20% 50V	
	C 321	QETC1HM-475ZN	E CAPACITOR	47MF 20% 10V	
	C 322	QETC1CM-226ZN	E CAPACITOR	22MF 20% 16V	
	C 323	QETC1HM-476ZN	E CAPACITOR	47MF 20% 10V	
	C 331	QETC1HM-225ZN	E CAPACITOR	22MF 20% 10V	
	C 332	QETC1HM-105ZN	E CAPACITOR	1.0MF 20% 50V	
	C 341	QETC1HM-475ZN	E CAPACITOR	47MF 20% 50V	
	C 342	QFN41HJ-682	M CAPACITOR	6800PF 5% 50V	
	C 343	QFLC1HJ-153ZM	M CAPACITOR	0.15MF 5% 50V	
	C 344	QFLC1HJ-273ZM	M CAPACITOR	0.27MF 5% 50V	

A	REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
	BPF 1	VBP4M3B-005	BP FILTER	20PF 5% 50V	
	C 001	QCS11HJ-200	C CAPACITOR	20PF 5% 50V	
	C 002	QCVB1CN-103Y	C CAPACITOR	24PF 5% 50V	
	C 003	QCS11HJ-240	C CAPACITOR	24PF 5% 50V	
	C 004	QCVB1CN-103Y	C CAPACITOR	30PF 10% 50V	
	C 005	QCS11HJ-150	C CAPACITOR	15PF 5% 50V	
	C 007	QCVB1CN-103Y	C CAPACITOR	0.10MF 30% 16V	
	C 008	QCVB1CN-103Y	C CAPACITOR	0.10MF 30% 16V	
	C 010	QCT30CH-180Y	C CAPACITOR	18PF 5% 50V	
	C 011	QCT30CH-150Y	C CAPACITOR	15PF 5% 50V	
	C 012	QCT30CH-5R6Y	C CAPACITOR	5.6PF 5% 50V	
	C 013	QCT30CH-120Y	C CAPACITOR	12PF 5% 50V	
	C 014	QCT30UJ-3R3Y	C CAPACITOR	3.3PF 5% 50V	
	C 016	QCVB1CN-103Y	C CAPACITOR	0.10MF 30% 16V	
	C 018	QCS11HJ-330Z	C CAPACITOR	33PF 5% 50V	
	C 021	QCVB1CN-103Y	C CAPACITOR	0.10MF 30% 16V	
	C 024	QCT30UJ-220Y	C CAPACITOR	22PF 5% 50V	
	C 025	QCT05UJ-100	C CAPACITOR	10PF 5% 50V	
	C 026	QCS11HJ-181	C CAPACITOR	180PF 5% 50V	
	C 027	QCS11HJ-361	C CAPACITOR	360PF 5% 50V	
	C 028	QCV1HK-302	C CAPACITOR	3900PF 10% 50V	
	C 029	QCVB1CN-103Y	C CAPACITOR	0.10MF 30% 16V	
	C 030	QCS11HJ-200	C CAPACITOR	20PF 5% 50V	
	C 031	QETC1CM-106ZN	E CAPACITOR	0.10MF 10% 50V	
	C 032	QCC31EM-273ZV	E CAPACITOR	0.27MF 20% 25V	
	C 033	QETC1CM-106ZN	E CAPACITOR	10MF 20% 16V	
	C 034	QETC1CM-106ZN	E CAPACITOR	10MF 20% 16V	
	C 035	QETC1HM-227ZN	E CAPACITOR	220MF 20% 10V	
	C 036	QCC11EM-473V	E CAPACITOR	0.47MF 20% 25V	
	C 037	QETC1HM-225ZN	E CAPACITOR	2.2MF 20% 50V	
	C 038	QETC1HM-684ZN	E CAPACITOR	68MF 20% 50V	
	C 039	QETC1HM-684ZN	E CAPACITOR	68MF 20% 50V	
	C 041	QEK40JM-476	E CAPACITOR	47MF 20% 6.3V	
	C 042	QETC1HM-104ZN	E CAPACITOR	10MF 20% 50V	
	C 044	QCT30CH-180Y	C CAPACITOR	18PF 5% 50V	
	C 045	QCC31EM-273ZV	E CAPACITOR	0.27MF 20% 25V	
	C 046	QCS11HJ-200	C CAPACITOR	20PF 5% 50V	
	C 047	QCS11HJ-200	C CAPACITOR	20PF 5% 50V	
	C 048	QCS11HJ-200	C CAPACITOR	20PF 5% 50V	
	C 053	QCC31EM-333ZV	E CAPACITOR	0.33MF 20% 25V	
	C 054	QCC31EM-333ZV	E CAPACITOR	0.33MF 20% 25V	
	C 055	QETC1HM-474ZN	E CAPACITOR	47MF 20% 50V	
	C 056	QETC1HM-474ZN	E CAPACITOR	47MF 20% 50V	
	C 057	QCS11HJ-151Y	C CAPACITOR	150PF 10% 50V	
	C 058	QCS11HJ-151Y	C CAPACITOR	150PF 10% 50V	
	C 059	QCS11HJ-151Y	C CAPACITOR	150PF 10% 50V	
	C 060	QCS11HJ-151Y	C CAPACITOR	150PF 10% 50V	
	C 061	QCS11HJ-151Y	C CAPACITOR	150PF 10% 50V	
	C 062	QCS11HJ-151Y	C CAPACITOR	150PF 10% 50V	
	C 064	QCS11HJ-150	C CAPACITOR	15PF 5% 50V	
	C 065	QCS11HJ-150	C CAPACITOR	15PF 5% 50V	
	C 066	QCS11HJ-100	C CAPACITOR	10PF 5% 50V	
	C 081	QCS11HJ-100	C CAPACITOR	10PF 5% 50V	
	C 082	QCS11HJ-180	C CAPACITOR	18PF 5% 50V	
	C 083	QCS11HJ-680	C CAPACITOR	68PF 5% 50V	
	C 085	QCS11HJ-560	C CAPACITOR	56PF 5% 50V	
	C 087	QCS11HJ-102Y	C CAPACITOR	1000PF 10% 50V	
	C 088	QCS11HJ-2R2Y	C CAPACITOR	2.2PF 10% 50V	
	C 101	QCS11HJ-561Y	C CAPACITOR	560PF 10% 50V	
	C 102	QCS11HJ-561Y	C CAPACITOR	560PF 10% 50V	
	C 103	QFLC1HJ-123ZM	M CAPACITOR	0.12MF 5% 50V	
	C 104	QCS11HJ-151Y	C CAPACITOR	150PF 10% 50V	
	C 105	QETC1HM-476ZN	E CAPACITOR	47MF 20% 10V	
	C 106	QETC1HM-335Z	E CAPACITOR	3.3MF 20% 50V	
	C 122	QCC31EM-393ZV	E CAPACITOR	0.39MF 20% 25V	

BLOCK NO. 01

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
C 345	QCY1HK-222	C CAPACITOR	220PF 10% 50V	
C 346	QFN41HJ-682	M CAPACITOR	6800PF 5% 50V	
C 348	QCB81HK-102V	C CAPACITOR	1000PF 10% 50V	
C 349	QCB81HK-102V	C CAPACITOR	1000PF 10% 50V	
C 361	QETC1AM-227ZN	E CAPACITOR	220NF 20% 10V	
C 811	QETC1AM-227ZN	E CAPACITOR	220NF 20% 10V	
C 812	QETC1EM-107ZN	E CAPACITOR	100NF 20% 25V	
C 901	QETB1EM-338N	E CAPACITOR	3300NF 20% 25V	
C 902	QETC1AM-476ZN	E CAPACITOR	47MF 20% 10V	
C 911	QETC1AM-477ZN	E CAPACITOR	470NF 20% 10V	
C 912	QCVB1CM-103V	C CAPACITOR	.010MF 20% 10V	
C 913	QCB81HK-102V	C CAPACITOR	1000PF 10% 50V	
C 914	QCC11EM-683V	C CAPACITOR	.068MF 20% 25V	
C 915	QCC11EM-683V	C CAPACITOR	.068MF 20% 25V	
C 920	QER61EM-335Z	E CAPACITOR	3.3MF 20% 25V	
C 921	QETC1HM-475ZN	E CAPACITOR	4.7MF 20% 50V	
C 922	QETC1AM-107ZN	E CAPACITOR	100NF 20% 10V	
C 996	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
C 997	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
C 998	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
C 999	QFV41HJ-104	TF CAPACITOR	.10MF 5% 50V	
CF 01	VCF2L3B-105	C FILTER		
CF 02	VCF2L3B-105	C FILTER		
CF 03	VCF122Z-111Z	C FILTER		
CLIP	VNZ0087-001Z	FUSE HOLDER	F0F F997	EN-E
CLIP	VNZ0087-001Z	FUSE HOLDER	F0F F998	
CNTP1	TTL25V-003	CONNECTOR		
CN301	QNV5011-003	CONNECTOR		
CN302	QNV5011-007	CONNECTOR		
CN321	TTL25V-010	CONNECTOR	MAIN TO AB MECH	
CN372	EMV7112-004	SOCKET	MAIN TO MOTOR	
CN603	EMV7112-005	SOCKET	TO CD CN	
CN702	VNC0107-002	CONNECTOR		
D 004	MA346	VC DIODE	FM AFC	
D 012	MA700	ZENER DIODE		
D 371	1SR3S-100	SI DIODE		
D 995	1N5401M	SI DIODE		EN-E
D 996	1N5401VL	SI DIODE	FOR D999	
D 997	1N5401VL	SI DIODE	FOR D999	
D 998	1N5401VL	SI DIODE		
D 999	1N5401VL	SI DIODE		
F 997	QMF51E2-3R15J1	FUSE	3.15A	EN-E
F 998	QMF51E2-3R11BS	FUSE	3.15A	B
IC 01	TA7358P(N)	IC	FM FRONT END	
IC 02	TA8186P	IC	FM AMIF	
IC301	LA3246	IC		
IC302	LA3220	IC		
IC303	BA3126N	IC		
IC801	TA8207K	IC		
IC921	PQ30RV1	IC	CD REG	
J 801	VNJ4024-001	JACK	H.P JACK	
J 802	EMB90VV-401A	SPK TERMINAL		
J 995	QMA431B-V01	DC JACK		EN-E
J 999	QNC0263-004	AC SOCKET	3.15A	E/G/EN/GI
J 999	QNC0263-004BS	AC SOCKET		B
L 001	VGF1B10-004	OSC COIL	FM OSC	
L 002	VGF1B12-011	RF COIL	FM RF	
L 003	VGL7119-301	OSC COIL		
L 004	QGB010B-321	BAR ANTENNA	AM RF	
L 005	VGM7101-301	OSC COIL	AM OSC	
L 007	VGS7001-305	OSC COIL		
L 008	VGR7002-302	RF COIL		
L 009	VQ3047-6	COIL	FM DET	
L 010	VQP0024-120V	INDUCTOR		

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
L 011	VQ3047-17	COIL		
L 371	VQP0028-100Z	INDUCTOR		
Q 003	DI1114VS	TRANSISTOR	MONO ST	
Q 161	2SC945L(P-0)	TRANSISTOR		
Q 261	2SC945L(P-0)	TRANSISTOR		
Q 901	2SA952L(K)	TRANSISTOR	POWER SW	
Q 911	2SB772(Q-P)	TRANSISTOR	AMP MOTOR REG	
Q 921	2SB772(Q-P)	TRANSISTOR		
R 001	QRD161J-470	CARBON RESISTOR	47 5% 1/6W	
R 002	QRD161J-220	CARBON RESISTOR	22 5% 1/6W	
R 003	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
R 004	QRD161J-2R2	CARBON RESISTOR	2.2 5% 1/6W	
R 005	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
R 006	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
R 007	QRD161J-331	CARBON RESISTOR	330 5% 1/6W	
R 011	QRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
R 012	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
R 014	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
R 015	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R 016	QRD161J-561	CARBON RESISTOR	560 5% 1/6W	
R 017	QRD161J-561	CARBON RESISTOR	560 5% 1/6W	
R 018	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R 020	QRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
R 021	QRD161J-470	CARBON RESISTOR	47 5% 1/6W	
R 022	QRD161J-470	CARBON RESISTOR	47 5% 1/6W	
R 024	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 025	QRD161J-563	CARBON RESISTOR	56K 5% 1/6W	
R 027	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R 028	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 103	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
R 104	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	
R 105	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
R 106	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
R 107	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 121	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 122	QRD161J-681	C RESISTOR	680 5% 1/6W	
R 123	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R 124	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
R 125	QRD161J-561	CARBON RESISTOR	560 5% 1/6W	
R 126	QRD161J-560	CARBON RESISTOR	56 5% 1/6W	
R 129	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
R 130	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
R 131	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 132	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 133	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 134	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R 141	QRD167J-562	CARBON RESISTOR	5.6K 5% 1/6W	
R 150	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 151	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
R 152	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
R 153	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 157	QRD161J-392	CARBON RESISTOR	3.9K 5% 1/6W	
R 158	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 161	QRD167J-562	CARBON RESISTOR	5.6K 5% 1/6W	
R 162	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
R 163	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 164	QRD167J-682	CARBON RESISTOR	6.8K 5% 1/6W	
R 165	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R 166	QRD161J-162YT	C RESISTOR	1.6K 5% 1/6W	
R 167	QRD161J-391	CARBON RESISTOR	390 5% 1/6W	
R 181	QRD161J-181	CARBON RESISTOR	180 5% 1/6W	
R 182	QRD161J-2R2	CARBON RESISTOR	2.2 5% 1/6W	
R 183	QRD161J-151	CARBON RESISTOR	150 5% 1/6W	
R 203	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
R 204	QRD161J-183	CARBON RESISTOR	18K 5% 1/6W	

BLOCK NO. 01

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
R 205	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
R 206	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
R 207	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 221	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 222	QRD161J-681	CARBON RESISTOR	680 5% 1/6W	
R 223	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R 224	QRD161J-823	CARBON RESISTOR	82K 5% 1/6W	
R 225	QRD161J-561	CARBON RESISTOR	560 5% 1/6W	
R 226	QRD161J-560	CARBON RESISTOR	56 5% 1/6W	
R 229	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
R 230	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
R 231	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 232	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 233	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 234	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R 241	QRD161J-562	CARBON RESISTOR	5.6K 5% 1/6W	
R 250	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 251	QRD161J-822	CARBON RESISTOR	8.2K 5% 1/6W	
R 252	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
R 253	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 257	QRD161J-392	CARBON RESISTOR	3.9K 5% 1/6W	
R 258	QRD161J-223	CARBON RESISTOR	22K 5% 1/6W	
R 261	QRD161J-562	CARBON RESISTOR	5.6K 5% 1/6W	
R 262	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
R 263	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 264	QRD161J-682	CARBON RESISTOR	6.8K 5% 1/6W	
R 265	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R 266	QRD161J-1621T	C RESISTOR	1.6K 5% 1/6W	
R 267	QRD161J-391	CARBON RESISTOR	390 5% 1/6W	
R 281	QRD161J-181	CARBON RESISTOR	180 5% 1/6W	
R 282	QRD161J-2R2	CARBON RESISTOR	2.2 5% 1/6W	
R 283	QRD161J-151	CARBON RESISTOR	150 5% 1/6W	
R 301	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
R 302	QRD161J-393	CARBON RESISTOR	39K 5% 1/6W	
R 303	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 304	QRD161J-124	CARBON RESISTOR	120K 5% 1/6W	
R 305	QRD161J-124	CARBON RESISTOR	120K 5% 1/6W	
R 306	QRD161J-333	CARBON RESISTOR	33K 5% 1/6W	
R 307	QRD161J-274	CARBON RESISTOR	270K 5% 1/6W	
R 308	QRD161J-333	CARBON RESISTOR	33K 5% 1/6W	
R 309	QRD161J-392	CARBON RESISTOR	3.9K 5% 1/6W	
R 310	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
R 311	QRD161J-473	CARBON RESISTOR	47K 5% 1/6W	
R 312	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
R 321	QRD161J-121	CARBON RESISTOR	120 5% 1/6W	
R 322	QRD161J-475	CARBON RESISTOR	4.7M 5% 1/6W	
R 323	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
R 324	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
R 325	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R 331	QRD161J-680	CARBON RESISTOR	68 5% 1/6W	
R 332	QRD161J-123S	CARBON RESISTOR	12K 5% 1/4W	
R 333	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 340	QRD161J-820	CARBON RESISTOR	82 5% 1/6W	
R 341	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
R 342	QRD161J-3R3	CARBON RESISTOR	3.3 5% 1/6W	
R 343	QRD161J-123	CARBON RESISTOR	12K 5% 1/6W	
R 344	QRD161J-101	CARBON RESISTOR	100 5% 1/6W	
R 345	QRD161J-821	CARBON RESISTOR	820 5% 1/6W	
R 346	QRD161J-103	CARBON RESISTOR	10K 5% 1/6W	
R 347	QRD161J-182	CARBON RESISTOR	1.8K 5% 1/6W	
R 348	QRD161J-122	CARBON RESISTOR	1.2K 5% 1/6W	
R 351	QRD161J-331	CARBON RESISTOR	330 5% 1/6W	
R 352	QRD161J-561	CARBON RESISTOR	560 5% 1/6W	
R 355	QRD161J-470	CARBON RESISTOR	47 5% 1/6W	
R 361	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
R 371	QRD161J-222	CARBON RESISTOR	2.2K 5% 1/6W	
R 372	QRD161J-392	CARBON RESISTOR	3.9K 5% 1/6W	
R 373	QRD161J-104	CARBON RESISTOR	100K 5% 1/6W	
R 901	QRD161J-272	C. RESISTOR	2.7K 5% 1/6W	
R 902	QRD161J-272	C. RESISTOR	2.7K 5% 1/6W	
R 911	QRD161J-472	CARBON RESISTOR	4.7K 5% 1/6W	
R 912	QRD161J-331	CARBON RESISTOR	330 5% 1/6W	
R 913	QRD161J-564	CARBON RESISTOR	560K 5% 1/6W	
R 914	QRD161J-471	CARBON RESISTOR	470 5% 1/6W	
R 915	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
R 916	QRD161J-224	CARBON RESISTOR	220K 5% 1/6W	
R 917	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R 918	QRD161J-102	CARBON RESISTOR	1.0K 5% 1/6W	
R 921	QRD161J-272	CARBON RESISTOR	2.7K 5% 1/6W	
R 922	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
R 923	QRD161J-391	CARBON RESISTOR	390 5% 1/6W	
R 924	QRD161J-152	CARBON RESISTOR	1.5K 5% 1/6W	
S 001	QSL6A84-V01	LEVER SWITCH	BAND	
S 301	QSL6A23-V01	LEVER SW		
S 351	QSL6A64-V01	LEVER SWITCH		
S 901	QSL5102-V04	PUSH SW	FOR FUNCTION SW	
T 001	VQ17F12-111	IFT	FM IF	
T 002	VQ17A21-106	IFT	AM IF	E,G,G1,EN B
T 999	VTP57P2-12C	POWER TRANS.		
T 999	VTP57P2-12C8S	POWER TRANS.		
TC 09	QAT3722-300ZM	T CAPACITOR		
TC 10	QAT3722-300ZM	T CAPACITOR		
TC 11	QAT3722-100M	T CAPACITOR		
TC 12	QAT3722-100M	T CAPACITOR		
TC 13	QAT3722-100M	T CAPACITOR		
V01-4	GAP1231-530VS	V CAPACITOR	VC01-04, TC01-04	
VR341	QVPA603-203A	SEMI V. RESISTOR	BIAS ADJUST	
VR361	QVDB12W-V01	V RESISTOR	TREBLE	
VR362	QVDB12W-V01	V RESISTOR	BASS	
VR371	QVPA603-202M	V RESISTOR		
VR801	QVDB17A-V02	V RESISTOR(A)	MAIN VOL	

■ CD Amplifier Board 0 2

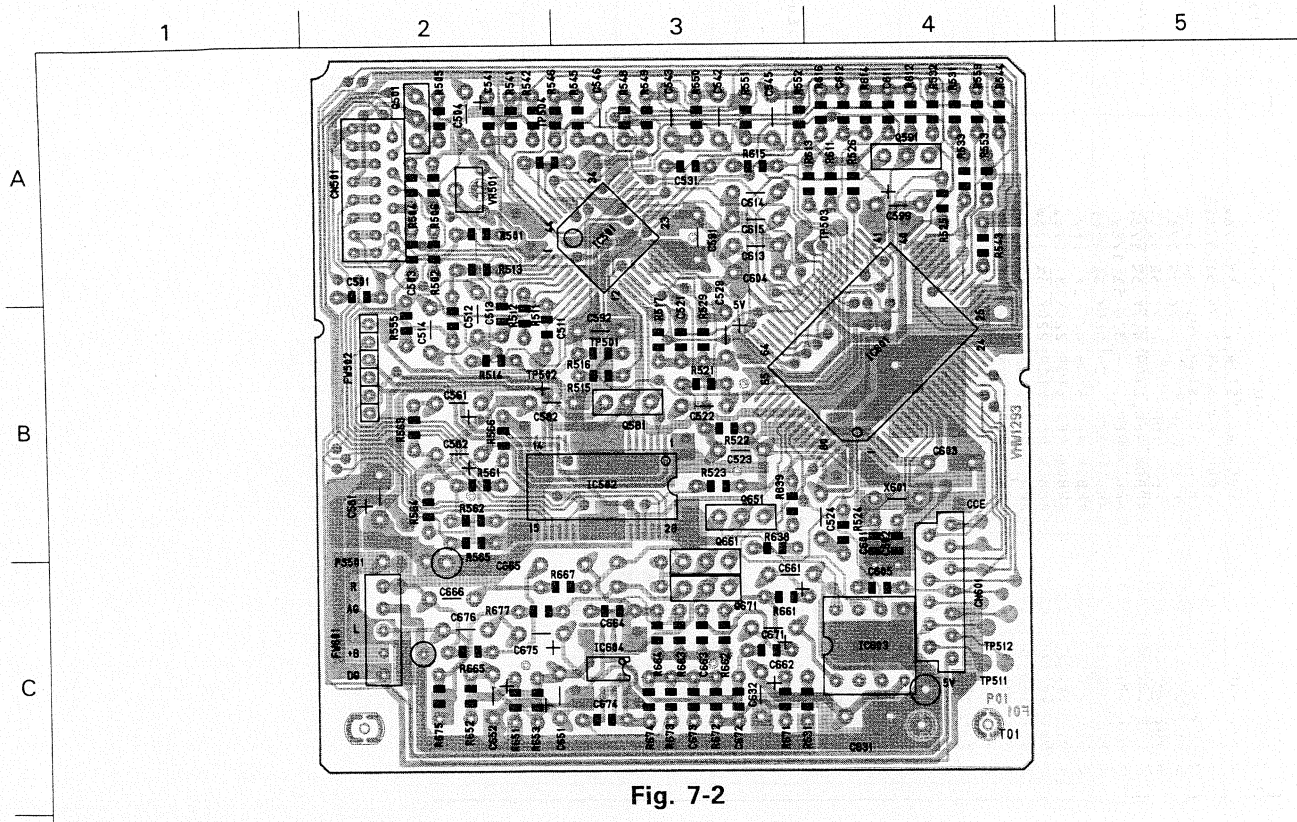


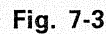
Fig. 7-2

■ CD Amplifier Board Parts List

REF.	PARTS NO.	PARTS NAME	REMARKS	SUFFIX
A 501	QCB1HK-471Y	C CAPACITOR	470PF 10% 50V	
C 503	QCB1CM-103Y	C CAPACITOR	0.10MF 20% 16V	
C 504	QEC1CM-106ZN	E CAPACITOR	10MF 20% 16V	
C 511	QCS1HK-3R9	C CAPACITOR	3.9PF 10% 50V	
C 512	QCS11HJ-270	C CAPACITOR	27PF 5% 50V	
C 513	QFLC1HJ-104ZM	M CAPACITOR	0.10MF 5% 50V	
C 514	QFLC1HJ-103ZM	M CAPACITOR	0.10MF 5% 50V	
C 521	QCB1HK-561Y	C CAPACITOR	560PF 10% 50V	
C 522	QFLC1HJ-473ZM	M CAPACITOR	0.47MF 5% 50V	
C 523	QFV1HJ-154ZM	TF CAPACITOR	0.15MF 5% 50V	
C 524	QEN61ER-475ZN	NP-E CAPACITOR	4.7MF ±30% -10%	
C 529	QETC1AM-336ZN	E CAPACITOR	33MF 20% 10V	
C 531	QCVB1CM-822Y	C CAPACITOR	8200PF 20% 16V	
C 541	QCB1HK-101Y	C CAPACITOR	100PF 10% 50V	
C 542	QFLC1HJ-153ZM	M CAPACITOR	0.15MF 5% 50V	
C 543	QFLC1HJ-273ZM	M CAPACITOR	0.27MF 5% 50V	
C 545	QEN61HM-105Z	NP-E CAPACITOR	1.0MF 20% 50V	
C 546	QFLC1HJ-223ZM	M CAPACITOR	0.22MF 5% 50V	
C 561	QETC1AM-476ZN	E CAPACITOR	47MF 20% 10V	
C 562	QETC1HM-475ZN	E CAPACITOR	4.7MF 20% 50V	
C 581	QETC1AM-477ZN	E CAPACITOR	470MF 20% 10V	
C 582	QETC1AM-107ZN	E CAPACITOR	100MF 20% 10V	
C 591	VCPO009-105Z	C CAPACITOR	100MF 20% 10V	
C 592	VCPO009-105Z	C CAPACITOR	100MF 20% 10V	
C 599	QETC1AM-107ZN	E CAPACITOR	100MF 20% 10V	
C 601	QCS11HJ-330	C CAPACITOR	FOR CRYSTAL	
C 602	QCS11HJ-330	C CAPACITOR	FOR CRYSTAL	
C 603	QCC11EM-104V	C CAPACITOR	0.10MF 20% 25V	
C 604	QCC11EM-104V	C CAPACITOR	0.10MF 20% 25V	
C 605	QCVB1CM-103Y	C CAPACITOR	0.10MF 20% 16V	
C 611	QCB1HK-101Y	C CAPACITOR	100PF 10% 50V	
C 612	QCVB1CM-103Y	C CAPACITOR	0.10MF 20% 16V	
C 613	QFLC1HJ-103ZM	M CAPACITOR	0.10MF 5% 50V	
C 614	QFN41HJ-332	M CAPACITOR	3300PF 5% 50V	
C 615	QFN41HJ-332	M CAPACITOR	3300PF 5% 50V	
C 631	QCC11EM-104V	C CAPACITOR	0.10MF 20% 25V	
C 632	QETC1AM-477ZN	E CAPACITOR	470MF 20% 10V	
C 651	QETC1AM-107ZN	E CAPACITOR	100MF 20% 10V	
C 652	QETC1AM-107ZN	E CAPACITOR	100MF 20% 10V	
C 661	QETC1HM-475ZN	E CAPACITOR	4.7MF 20% 50V	
C 662	QCVB1CM-472Y	C CAPACITOR	4700PF 20% 16V	
C 663	QCVB1CM-822Y	C CAPACITOR	8200PF 20% 16V	
C 664	QCB1HK-820Y	C CAPACITOR	82PF 10% 50V	
C 665	QETC1EM-335ZN	E CAPACITOR	3.3MF 20% 25V	
C 666	QCC11EM-123V	C CAPACITOR	0.12MF 20% 25V	
C 671	QETC1HM-475ZN	E CAPACITOR	4.7MF 20% 50V	
C 672	QCVB1CM-472Y	C CAPACITOR	4700PF 20% 16V	
C 673	QCVB1CM-822Y	C CAPACITOR	8200PF 20% 16V	
C 674	QCB1HK-820Y	C CAPACITOR	82PF 10% 50V	
C 675	QETC1EM-335ZN	E CAPACITOR	3.3MF 20% 25V	
C 676	QCC11EM-123V	C CAPACITOR	0.12MF 20% 25V	
CN501	VNC0270-R15	CONNECTOR	TO RF	
CN601	VNC0163-R13	CONNECTOR	TO CPU	
IC501	TA8191F	IC	SERVO LSI	
IC502	BA6298FP	IC	POWER DRIVER	
IC601	TC9236AF	IC	1 CHIP PROCESSE	
IC603	TD1311	IC	D/A CONVERTER	
PS501	VGP0028-100Z	INDUCTOR		
Q 501	2SA952(L-K)	TRANSISTOR		
Q 581	2SA952(L-K)	TRANSISTOR	5V REGURETOR	

■ **CD Controller Board** 03

■ CD Controller Board Parts List



8 Exploded View of Enclosure

■ Receiver Section M1

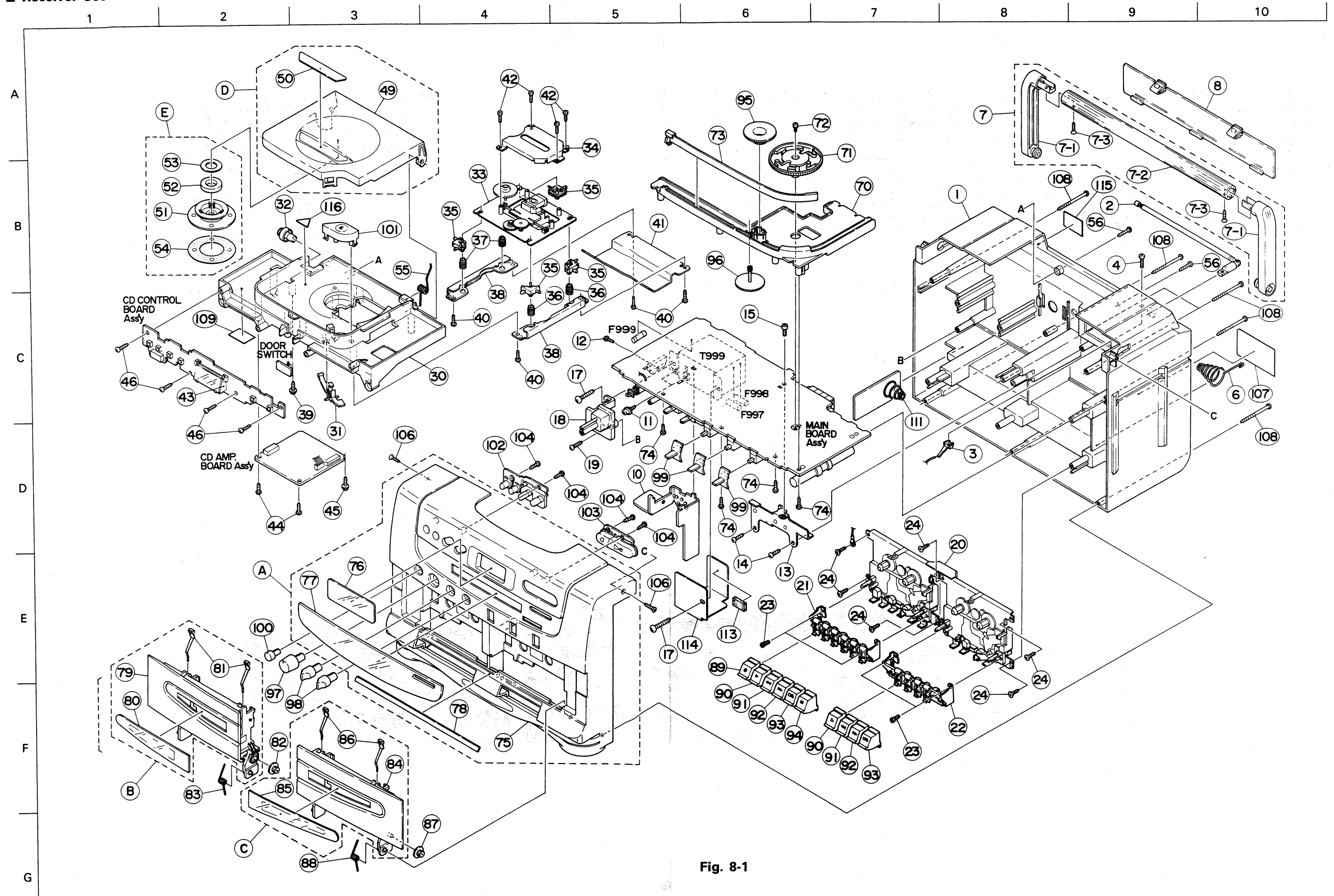


Fig. 8-1

■ Enclosure Parts List

BLOCK NO. M1MM

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	A	ZCPRX95GI-FB	FRONT CABINET		1	GI	
		ZCPRX95EN-FB	FRONT CABINET		1	EN	
		ZCPRX95G-FB	FRONT CABINET		1	G	
		ZCPRX95E-FB	FRONT CABINET		1	E	
		ZCPRX95B-FB	FRONT CABINET		1	B	
	B	ZCPRX95K-CBA	CASSETTE CASE	DECK A	1		
	C	ZCPRX95K-CBB	CASSETTE CASE	DECK B	1		
	D	ZCPRX95K-DCAB	DUST COVER		1		
	E	ZCRCX520K-CLAMP	CD CLAMPER ASSY		1		
	1	VJG1105-004	REAR CABINET		1	B,G,GI	
		VJG1105-002	REAR CABINET		1	E,EN	
	2	VJA3006-00E	ROD ANTENA ASSY		1		
	3	VMZ0112-10SF	ANT.T.LUG ASS'Y		1		
	4	SDSP3012N	SCREW	ROD ANT+REAR	1		
	6	VYH5657-001	BATTERY SPRING		1		
	7	PCX95K-HANDLE	HANDOL ASS'Y		1		
	8	VJC2016-008	BATTERY COVER		1		
	10	VYH3730-002	HEAT SINK		1		
	11	DPSP3008Z	SCREW	TR+HEAT SINK	2		
	12	SBSF3008Z	SCREW	IC+HEAT SINK	1		
	13	VKL7204-001	AC BRACKET		1		
	14	SBSF3012Z	SCREW	AC BRACKET	2		
	15	SBST3006Z	SCREW	AC BRACKET	1		
	17	GBSF4020Z	SCREW	POWER TRANS	2		
	18	VKS3598-001	MECHA HOLDER		1		
	19	SBSF3012Z	SCREW	R.CABI+M.HOLDER	1		
	20	-----	MECHANISM ASS'Y	CASSETTE	1		
	21	182131301ZT	BUTTON FRAME AS		1		
	22	182131307ZT	B. FRAME ASS'Y		1		
	23	99991402T	MINI SCREW	B.F.ASS'Y + MEC	4		
	24	SSSF3012Z	SCREW	MECHA+REAR CABI	6		
	30	VJD1161-001	CD CASE		1		
	31	VKS5416-001	LOCK ARM		1		
	32	VYH4769-002	GEAR		1		
	33	EXL-M6A	CD MECHA		1		
	34	VJD5410-004	PICK COVER		1		
	35	VYH6596-001	CD CUSHION	FOR CD MECHA	4		
	36	VKW4693-101	CONICAL SPRING	FOR CD MECHA	2		
	37	VKW4693-102	CONICAL SPRING		2		
	38	VKL7209-002	CD MECHA HOLDER		2		
	39	E65923-003	T.SCREW	OPEN ,CLOSE SW	1		
	40	SBSF3012Z	SCREW	CD ASSY+CD CASE	4		
	41	VYH7741-001	SHIELD	CD PROTECTOR	1		
	42	SDSF2006M	SCREW	PICK COVER	4		
	43	VKS5417-001	LCD HOLDER		1		
	44	SBSF3012Z	SCREW	CD BOARD	2		
	45	GBSF3012Z	SCREW	CD AMP BOARD	1		
	46	SBSF3012Z	SCREW	LCD BOARD	4		
	49	VJT1045-003	CD DOOR		1		
	50	VJD5404-001	CD LENS	MECHA A	1		
	52	VYH7313-001	MAGNET		1		
	53	VYH7314-001	YOKE		1		
	54	VYH7315-004	PAD		1		
	55	VKW5021-003	CD DOOR SPRING		1		
	56	SBSF3014Z	SCREW	CD ASS'Y+REAR	2		

△ Parts are safety assurance parts.

When replacing those parts, make sure to use the specified one.

BLOCK NO. M1MM

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	70	VYH1221-001	TUNER CHASSIS		1		
	71	VKS3592-001	DIAL DRUM		1		
	72	LPSP2606Z	SCREW	DIAL DRAM	1		
	73	VJN4142-001	NEEDLE		1		
	74	SBSF3012Z	SCREW	T.CHASSIS + AMP	4		
	75	VJG1106-002	FRONT CABINET		1		
	76	VJD5411-001	LCD LENS		1		
	77	VJK3591-008	DIAL LENS		1	B, E, EN	
		VJK3591-003	DIAL LENS		1	G	
		VJK3591-004	DIAL LENS		1	GI	
	78	VJD3940-001	CONTROL PLATE		1		
	79	VJT2302-001	CASSETTE DOOR(A	MECHA. A	1		
	80	VJT4198-001	CASSETTE LENS(A	MECHA. A	1		
	81	VKY4180-001	CASSETTE SPRING		2		
	82	VYH5601-001	GEAR		1		
	83	VKW5025-003	DOOR SPRING		1		
	84	VJT2302-002	CASSETTE DOOR(B	MECHA. B	1		
	85	VJT4198-002	CASSETTE LENS(B	MECHA. B	1		
	86	VKY4180-001	CASSETTE SPRING		2		
	87	VYH5601-001	GEAR		1		
	88	VKW5025-003	DOOR SPRING		1		
	89	VXP3391-001	MECHA BUTTON	DECK A, REC	1		
	90	VXP3391-002	MECHA BUTTON	PLAY	2		
	91	VXP3391-003	MECHA BUTTON	REW	2		
	92	VXP3391-004	MECHA BUTTON	FF	2		
	93	VXP3391-005	MECHA BUTTON	STOP	2		
	94	VXP3391-006	MECHA BUTTON	DECK A, PAUSE	1		
	95	VXL4407-001	TUNING KNOB		1		
	96	VXL4408-001	F TUNING KNOB	TUNER CHASSIS	1		
	97	VXL4421-001	VOLUME KNOB		1		
	98	VXL4422-001	KNOB	DUBBING, TAPE	2		
	99	VXQ4115-001	LEVER KNOB	FUNC/MONO.STE/B	3		
	100	VXP5162-001	POWER BUTTON		1		
	101	VXP5128-003	CD EJECT BUTTON		1		
	102	VXP3513-001	CD BUTTON(A)		1		
	103	VXP3514-001	CD BUTTON(B)		1		
	104	SBSF2608Z	SCREW	F.CABI+R.CABI	4		
	106	SSSF3010M	SCREW	F.CABI+R.CABI	2		
△	107	VYN7061-M002T	NAME PLATE		1	B	
		VYN7061-005T	NAME PLATE		1	E, EN	
		VYN7061-M008T	NAME PLATE		1	G	
		VYN7061-M108T	NAME PLATE		1	GI	
	108	SBSF3045Z	SCREW	SPEAKER TERMINA	6		
	109	VND4220-001	LASER CAUTION	FOR CD CASE 注意	1		
	111	VYH5483-001	BATTERY SPRING	UM-1	1		
	113	VYSH107-011	FELT SPACER	FOR P.TRANS.	1		
	114	VMA4555-001	SHIELD PLATE	FOR P.TRANS.	1		
	115	VND4221-001	CLASS 1 LABEL		1		
	116	E71541-001	E I LASER MARK		1		
	7-1	VJH3066-002	H. HOLDER		2		
	7-2	VJH4093-116	HANDLE PIPE		1		
	7-3	SHSF3012N	SCREW	HANDLE PIPE	2		

■ Speaker Box Section M 2

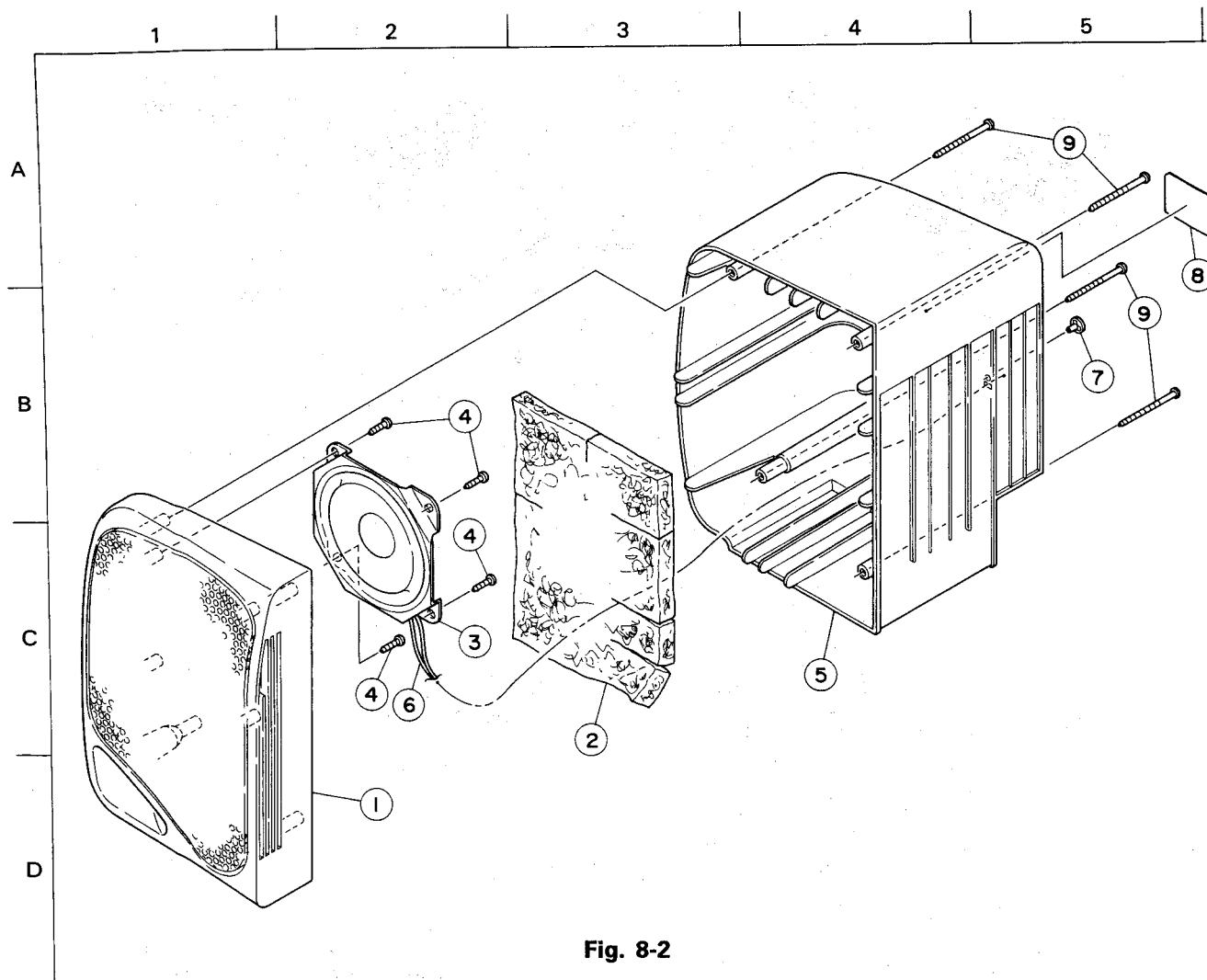


Fig. 8-2

■ Speaker Box Parts List

BLOCK NO. M2MM 1 1

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	1	VJC2473-00A	SP. PANEL ASS'Y	LEFT SIDE	1		
		VJC2474-00A	SP. PANEL ASS'Y	RIGHT SIDE	1		
	2	VKZ4687-001	SOUND ABSORBER		1		
	3	VGS1001-014	CONE SPEAKER	SP101	1		
	5	VJG1114-001	REAR CABINET	RIGHT SIDE	1		
		VJG1112-001	REAR CABINET	LEFT SIDE	1		
	6	VMP0040-002T	SPEAKER CORD		1		
	7	VJD5373-001SS	STOPPER ARM		1		
	8	VYN7061-001B	NAME PLATE		1		
	9	SBSF3035Z	TAPPING SCREW		4		

9 Exploded View of Mechanism

■ Cassette Mechanism M 3

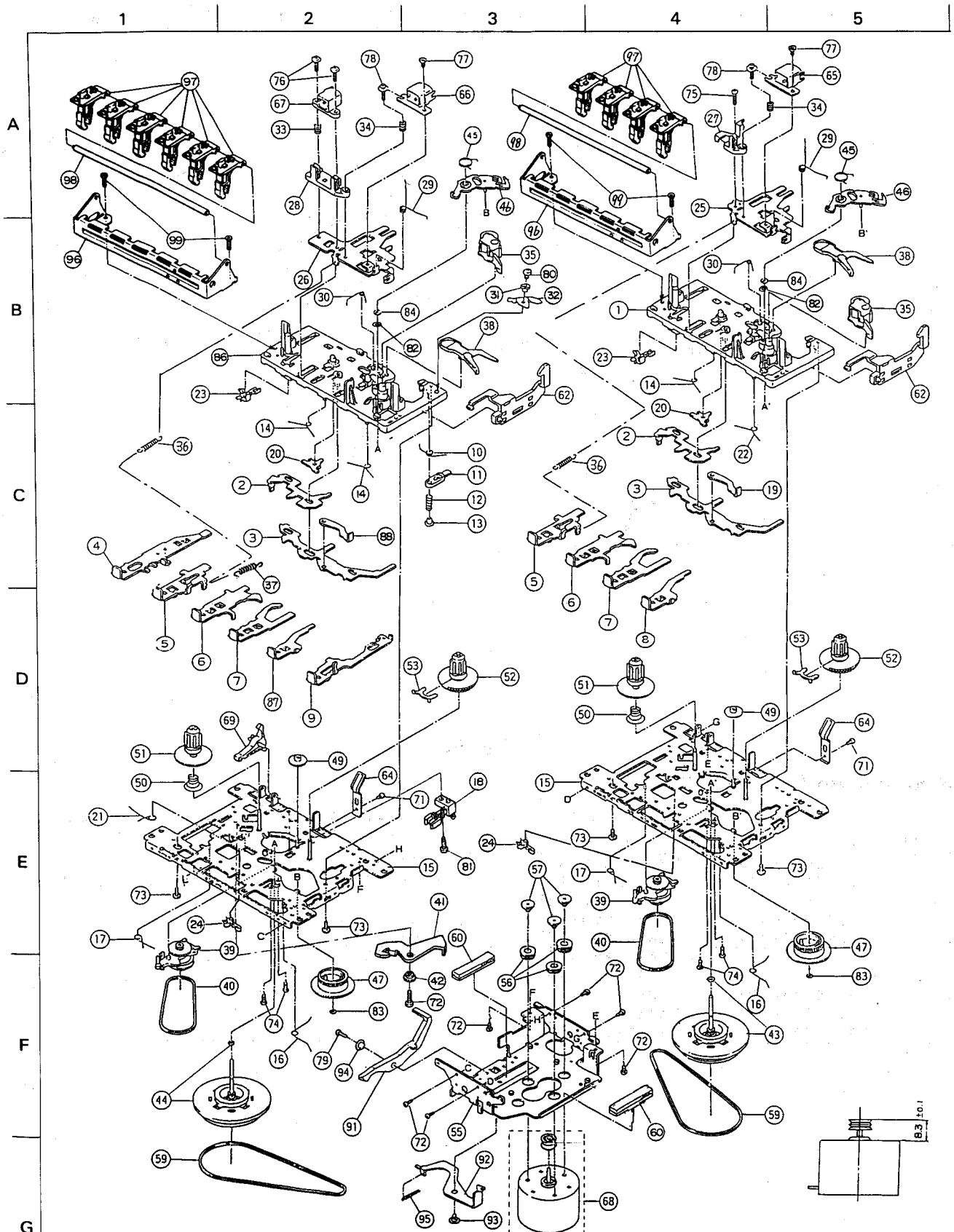


Fig. 9-1

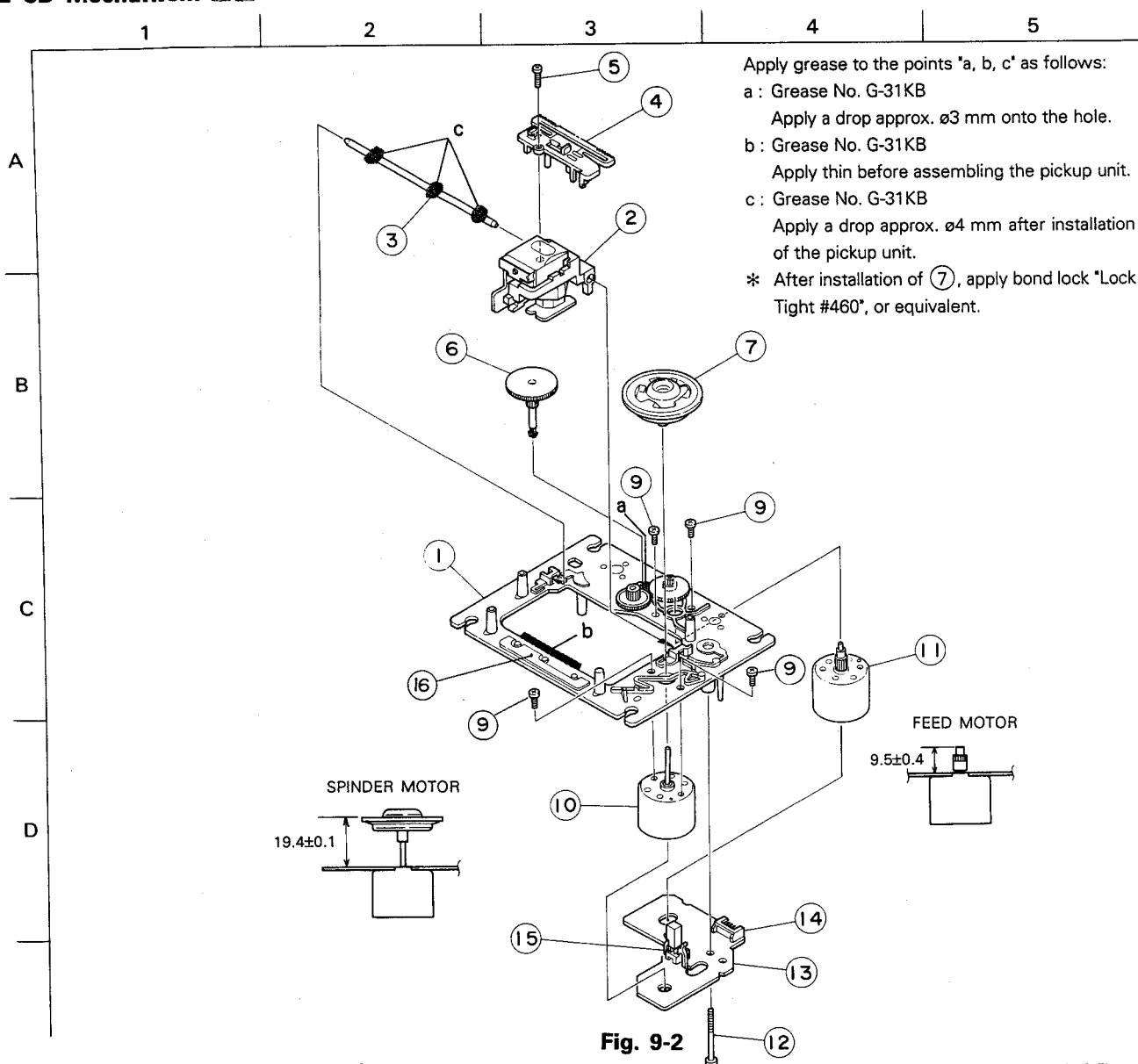
■ Cassette Mechanism Parts List

BLOCK NO. M3MM

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
	1	192114301ZT	BASE ASS'Y		1		
	2	19211409T	SWITCH ACTUATOR		2		
	3	19211438T	PUSH B. ACTUATOR		2		
	4	19211422T	BUTTON LEVER	REC BUTTON	1		
	5	19211484T	BUTTON LEVER	PLAY BUTTON	2		
	6	19211424T	BUTTON LEVER	REW BUTTON	2		
	7	19211425T	BUTTON LEVER	FF BUTTON	2		
	8	19211426T	BUTTON LEVER	STOP BUTTON	1		
	9	19211461T	BUTTON LEVER	PAUSE BUTTON	1		
	10	19211413T	P CONT. SPRING		1		
	11	19211455T	PAUSE LEVER (E)		1		
	12	19211412T	SPRING	PAUSE LEVER	1		
	13	19211411T	PAUSE STOPPER		1		
	14	19211414T	TORSION SPRING	BUTTON LEVER	3		
	15	192101501ZT	CHASSIS ASS'Y		2		
	16	19211416T	TORSION SPRING	E. ACTUATOR	2		
	17	19211417T	TORSION SPRING	P.S. LEVER	2		
	18	64010138T	LEAF SWITCH	MSW-1275	1		
	19	182101159T	E. KICK LEVER		1		
	20	19211420T	STOPPER		2		
	21	19211449T	LEVER SPRING	REC BUTTON	1		
	22	19211433T	TORSION SPRING	BUTTON LEVER (C)	1		
	23	MSW-1541T	LEAF SWITCH	MSW-1541T	2		
	24	640101161T	LEAF SWITCH	MSW-17820MVDO	2		
	25	19210311T	HEAD PANEL		1		
	26	19210314T	HEAD PANEL		1		
	27	19210304AT	HEAD BASE		1		
	28	19210306T	HEAD BASE		1		
	29	19210309T	PANEL P SPRING		2		
	30	19211418AT	SPRING	M CONTROL	2		
	31	19211437T	P ARM COLLAR		1		
	32	19211434T	P. ROLLER ARM		1		
	33	18210308T	SPRING		1		
	34	18210307T	AZIMUTH SPRING		2		
	35	192104306T	P. ROLL. ARM ASSY		2		
	36	18210150T	SPRING	PLAY BUTTON LEV	2		
	37	18211311T	TENSION SPRING	E. SLIDE LEVER	1		
	38	19212604TT	SENSING LEVER		2		
	39	192107302ZT	RF CLUTCH ASS'Y		2		
	40	18210711T	RF. BELT		2		
	41	19210201T	REC ARM		1		
	42	19211437T	P ARM COLLAR		1		
	43	192109318T	FLYWHEEL ASS'Y	PB MECHA. (B)	1		
	44	192109317T	FLYWHEEL ASS'Y	REC/PB MECHA. (A)	1		
	45	19212605T	TORSION SPRING	GEAR PLATE	2		
	46	192126502ZT	GEAR PLATE ASSY		2		
	47	19212602T	CAM GEAR		2		
	49	18211070T	F. FORWARD GEAR		2		
	50	18291010T	BACK T. SPRING		2		
	51	192105304T	S. REEL ASS'Y	SUPPLY	2		
	52	192105303T	T. REEL ASS'Y	TAKE-UP	2		
	53	19210506T	SENSOR		2		
	55	19211211T	MOTOR BRACKET		1		
	56	18211266T	MOTOR RUBBER		3		

BLOCK NO. M3MM [] [] []

REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
57	18511418T	COLLAR SCREW		3		
59	19210923T	MAIN BELT		2		
60	182112126T	ANTI V.FELT MAT		2		
62	19211302T	EJ. SLIDE LEVER	EJECT	2		
64	18291001T	PACK SPRING		2		
65	VGHO421-021	PB HEAD	DECK B	2		
66	VGHO421-021	PB HEAD	DECK A	2		
67	LE15A-C1	E HEAD	DECK A	1		
68	1921123182T	MOTOR ASS'Y		1		
69	18211069T	REC.SAF.LEVER		1		
71	91790000T	TAPPING SCREW	M2 X 3	2		
72	91800000T	SCREW	M2 X 4	7		
73	96790000T	TAPPING SCREW	M2 X 5	4		
74	99991809T	SPECIAL SCREW	M2 X 4.5	6		
75	90040000T	SCREW(M2 X 6)	M2 X 6	1		
76	9223C000T	CAP SCREW	M2 X 7.5	2		
77	91150000T	SCREW(M2 X 3)	M2 X 3	2		
78	99220000T	SCREW(M2 X 7)	M2 X 7	2		
79	91820000T	SCREW	M2 X 6	1		
80	99992041T	SPECIAL SCREW	M2 X 3	1		
81	91810000T	SCREW	M2 X 5	1		
82	99990003T	POLYSLIDER WAS.	2.1X4X 0.13	2		
83	94220000T	POLY.CUT WASHER	1.2X3.8X0.3	2		
84	99990313T	POLY.CUT WASHER	1.45X3.8X0.5	2		
86	192114316T	BASE ASS'Y		1		
87	19211466T	BUTTON LEVER	STOP	1		
88	19211464T	E KICK LEVER		1		
91	19211209T	P.KICK LEVER(B)		1		
92	18211268T	P.KICK LEVER		1		
93	18211223T	COLLAR SCREW		1		
94	18211265T	COLLAR (B)		1		
95	18211312T	SPRING	E. SLIDE LEVER	1		
96	18213106T	FRAME		2		
97	18213107T	SELECT LEVER		10		
98	18293103T	SHAFT	BUTTON LEVER	2		
99	99991402T	SCREW	BUTTON FRAME	4		

■ CD Mechanism M4

■ CD Mechanism Parts List

BLOCK NO. M4MM

△	REF.	PARTS NO.	PARTS NAME	REMARKS	QTY
	1	EPB-002A	MECHA BASE ASSY		1
	2	OPTIMA-6S	CD PICK-UP UNIT		1
	3	E406777-001	PICK-UP SHAFT		1
	4	E307746-001	CD RACK		1
	5	SDSF2006Z	SCREW	CD RACK ASS'Y	1
	6	EPB-003A	MECHA GEAR		1
	7	E75807-301	TURN TABLE		1
	9	SDSP2003N	SCREW	FOR MOTOR	4
	10	E406783-001	DC MOTOR	SPINDLE	1
	11	E406784-001SA	DC MOTOR ASS'Y	FEED	1
	12	E75832-001	SPECIAL SCREW	M.LEAF SWITCH	1
	13	EMW10190-001	PRINTED BOARD	LEAF SWITCH	1
	14	EMV5109-006B	CONNECTER		1
	15	ESB1100-005	LEAF SWITCH		1
	16	E407212-001	LR DAMPER		1

10 Packing

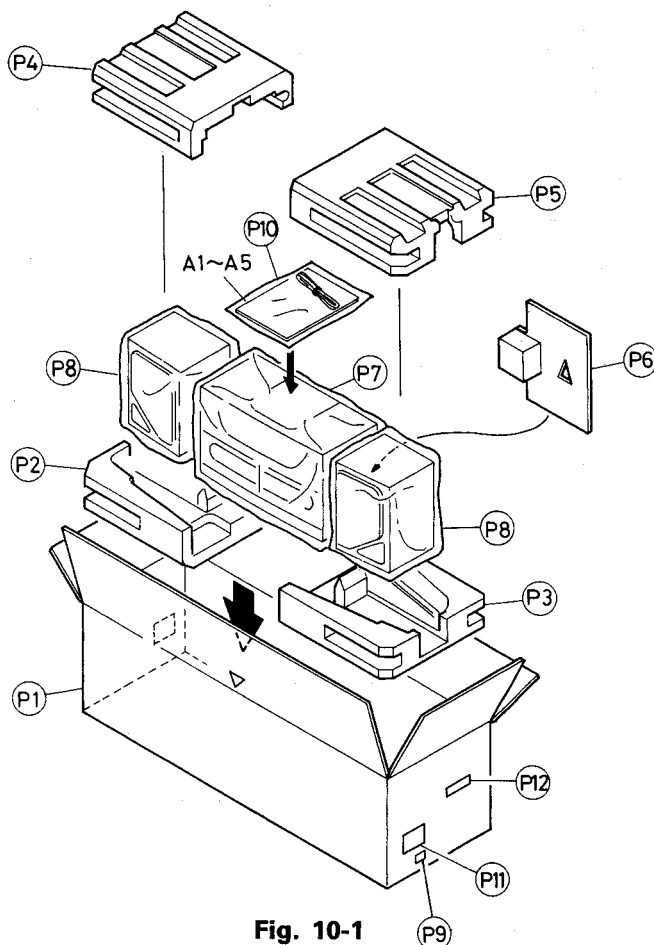


Fig. 10-1

■ Packing Parts List

BLOCK NO. **M5MM**

REF.	PARTS NO.	PARTS NAME	REMARKS	QTY	SUFFIX	CLR
A 1	VNN7061-251M	INSTRUCTIONS		1	B,GI	
	VNN7061-261	INSTRUCTIONS		1	E,G,EN	
	VNN7061-271M	INSTRUCTIONS		1	EN	
A 2	PU36158	FTZ INFORMATION		1	G	
A 3	QMP5510-183BS	POWER CORD		1	B	
A 4	QMP39F0-183	POWER CORD		1	E,G,GI,EN	
	E43486-3408	SAFETY INST.SHE		1	B	
	BT20060	WARRANTY CARD		1	B	
	BT-20066A	WARRANTY CARD		1	B,G	
	BT-20114	WARRANTY CARD		1	G	
P 1	VPC7061-001	CARTON		1		
P 2	VPH1593-001	CUSHION(BOTT,L)		1		
P 3	VPH1593-002	CUSHION(BOTT,R)		1		
P 4	VPH1594-001	CUSHION(UP,L)		1		
P 5	VPH1594-002	CUSHION(UP,R)		1		
P 6	VPK4276-00A	PAD ASS'Y		1		
P 7	E300196-031B	ENVELOPE	FDE SET	1		
P 8	VPE3020-018	POLY BAG	SPEAKER	2		
P 9	QZLA001-005	APPROVAL MARK		1	G	
P 10	VPE3005-007	POLY BAG	FOR INSTRUCTION	1		
P 11	VND3044-004	SIRIAL TICKET		1	B	
	VND3044-005	SERIAL TICKET		1	G	
	VND3044-003	SERIAL TICKET		1	E,GI,EN	
P 12	VND3025-167	EAN CODE LABEL		1		

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